		DEPARTMENT	ATE OF UTAH OF NATURAL RES OF OIL, GAS AND N				FOR	RM 3
APPLI	CATION FOR	PERMIT TO DRILL	-			1. WELL NAME and	NBU 921-35M4BS	
2. TYPE OF WORK  DRILL NEW WELL	REENTER P	&A WELL DEEPE	EN WELL			3. FIELD OR WILD	CAT NATURAL BUTTES	
4. TYPE OF WELL Gas We	ell Coalt	oed Methane Well: NO				5. UNIT or COMMU	INITIZATION AGRE	EMENT NAME
6. NAME OF OPERATOR KERF	R-MCGEE OIL &	GAS ONSHORE, L.P.				7. OPERATOR PHO	NE 720 929-6007	
8. ADDRESS OF OPERATOR P.O	). Box 173779, [	Denver, CO, 80217				9. OPERATOR E-M. Kathy.Schn	AIL eebeckDulnoan@ana	darko.com
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)		11. MINERAL OWNE				12. SURFACE OWN	IERSHIP	
UO 01194 ST	- 'foo'\	FEDERAL IND	DIAN STATE (	<b>9</b>	FEE 🔵		IDIAN STATE	
13. NAME OF SURFACE OWNER (if box 12							IER PHONE (if box	
15. ADDRESS OF SURFACE OWNER (if box	( 12 = 'fee')						IER E-MAIL (if box	12 = 'fee')
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')		18. INTEND TO COM MULTIPLE FORMATI YES (Submit C			NO 🛑	VERTICAL DI	RECTIONAL 📵 H	ORIZONTAL 🔲
20. LOCATION OF WELL	FC	OOTAGES	QTR-QTR	9	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	478 F	SL 543 FWL	SWSW		35	9.0 S	21.0 E	S
Top of Uppermost Producing Zone	423 F	SL 831 FWL	SWSW		35	9.0 S	21.0 E	S
At Total Depth	423 F	SL 831 FWL	SWSW		35	9.0 S	21.0 E	S
21. COUNTY UINTAH		22. DISTANCE TO N	EAREST LEASE LIN 423	E (Fe	et)	23. NUMBER OF A	CRES IN DRILLING	UNIT
		25. DISTANCE TO N (Applied For Drilling		AME	POOL	26. PROPOSED DE	<b>PTH</b> D: 9712 TVD: 9690	6
27. ELEVATION - GROUND LEVEL		28. BOND NUMBER				29. SOURCE OF DE	RILLING WATER / PPROVAL NUMBER	TE APPLICARIE
5090			22013542				Permit #43-8496	
		A	TTACHMENTS					
VERIFY THE FOLLOWING	ARE ATTACH	IED IN ACCORDAN	CE WITH THE U	ГАН (	OIL AND (	GAS CONSERVAT	ION GENERAL R	ULES
WELL PLAT OR MAP PREPARED BY	LICENSED SUF	RVEYOR OR ENGINEER	R COM	PLET	E DRILLING	G PLAN		
AFFIDAVIT OF STATUS OF SURFACE	OWNER AGRE	EEMENT (IF FEE SURF	ACE) FOR	4 5. I	F OPERATO	R IS OTHER THAN	THE LEASE OWNER	
DIRECTIONAL SURVEY PLAN (IF DID DRILLED)	RECTIONALLY	OR HORIZONTALLY	г торо	OGRA	PHICAL MA	Р		
NAME Danielle Piernot	1	TITLE Regulatory Analys	st		PHONE 72	20 929-6156		
SIGNATURE	С	DATE 11/23/2010			<b>EMAIL</b> gn	bregulatory@anadark	co.com	
<b>API NUMBER ASSIGNED</b> 43047513930000	-	APPROVAL			Bi	00 gill		
					Perr	mit Manager		

API Well No: 43047513930000 Received: 11/23/2010

	Propo	sed Hole, Casing, ar	nd Cement		
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)	
Prod	7.875	4.5	0	9712	
Pipe	Grade	Length	Weight		
	Grade I-80 Buttress	9712	11.6		

API Well No: 43047513930000 Received: 11/23/2010

	Prop	oosed Hole, Casing, a	and Cement		
String	Hole Size	<b>Casing Size</b>	Top (MD)	Bottom (MD)	
Surf	11	8.625	0	2540	
Pipe	Grade	Length	Weight		
	Grade J-55 LT&C	2540	28.0		

NBU 921-35M4BS

Drilling Program 9 of 16

#### NBU 921-35M4BS

Surface: 478 FSL / 543 FWL SWSW

BHL: 423 FSL / 831 FWL SWSW

Kerr-McGee Oil & Gas Onshore. L.P.

Section 35 T9S R21E

Unitah County, Utah Mineral Lease: ST UT UO 01194 ST

#### **ONSHORE ORDER NO. 1**

#### **DRILLING PROGRAM**

## 1. & 2. Estimated Tops of Important Geologic Markers: Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1413	
Birds Nest	1711	Water
Mahogany	2092	Water
Wasatch	4692	Gas
Mesaverde	7441	Gas
MVU2	8356	Gas
MVL1	8913	Gas
TVD	9696	
TD	9712	

#### 3. <u>Pressure Control Equipment</u> (Schematic Attached)

Please refer to the attached Drilling Program

#### 4. **Proposed Casing & Cementing Program:**

Please refer to the attached Drilling Program

#### 5. <u>Drilling Fluids Program:</u>

Please refer to the attached Drilling Program

#### 6. <u>Evaluation Program</u>:

Please refer to the attached Drilling Program

NBU 921-35M4BS

7.

Drilling Program 10 of 16

**Abnormal Conditions:** 

Maximum anticipated bottom hole pressure calculated at 9,696' TVD, approximately equals 5,940 psi (calculated at 0.61 psi/foot).

Maximum anticipated surface pressure equals approximately 3,807 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

#### 8. <u>Anticipated Starting Dates:</u>

#### 9. Variances:

Please refer to the attached Drilling Program. Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- · Blowout Prevention Equipment (BOPE) requirements;
- · Mud program requirements; and
- · Special drilling operation (surface equipment placement) requirements associated with air drilling.

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

#### **Background**

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

NBU 921-35M4BS

Drilling Program 11 of 16

The air rig is then mobilized to drill the surface casing hole by drilling a 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

#### Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

#### Variance for Mud Material Requirements

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

#### Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie

NBU 921-35M4BS Drilling Program

line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter 12 of 16 productive formations.

#### Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

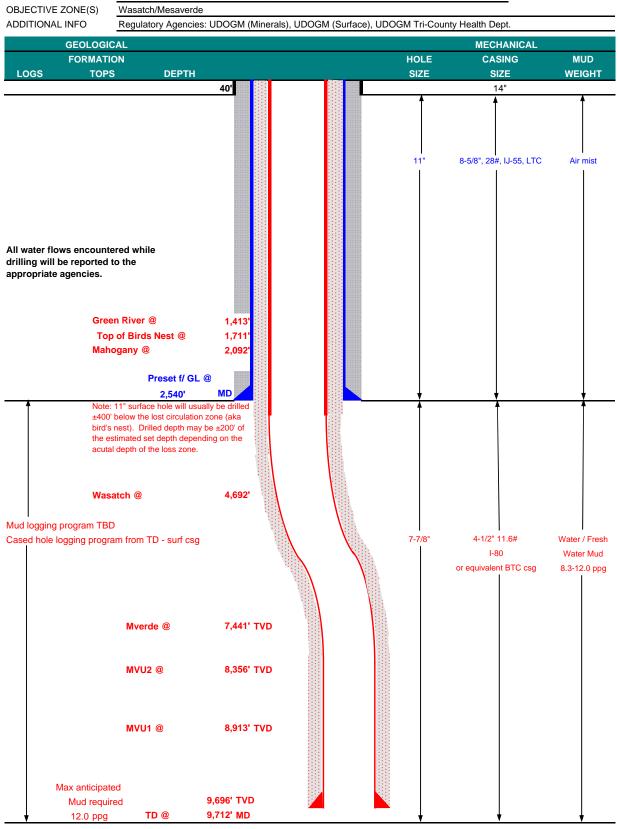
#### 10. <u>Other Information:</u>

Please refer to the attached Drilling Program.



#### KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

COMPANY NAME KERR-McGEE OIL & GAS ONSHORE LP DATE November 18, 2010 NBU 921-35M4BS WELL NAME 9,696' TVD 9,712' MD 5,089' COUNTY Uintah FINISHED ELEVATION FIELD Natural Buttes STATE Utah SURFACE LOCATION SWSW 478 FSL 543 FWL Sec 35 T 9S R 21E Latitude: 39.986483 Longitude: -109.525706 NAD 27 BTM HOLE LOCATION SWSW 423 FSL 831 FWL Sec 35 T 9S R 21E Latitude: 39.986343 -109.524679 NAD 27 Longitude: Wasatch/Mesaverde





#### **KERR-McGEE OIL & GAS ONSHORE LP**

#### **DRILLING PROGRAM**

#### **CASING PROGRAM**

								I	DESIGN FACT	ORS
	SIZE	INTI	ERVAL	_	WT.	GR.	CPLG.	BURST	COLLAPSE	TENSION
CONDUCTOR	14"	C	-40'							
								3,390	1,880	348,000
SURFACE	8-5/8"	0	to	2,540	28.00	IJ-55	LTC	0.86	1.58	4.84
								7,780	6,350	278,000
PRODUCTION	4-1/2"	0	to	9,712	11.60	I-80	BTC	1.99	1.05	2.83

<sup>\*</sup>Burst on suface casing is controlled by fracture gradient as shoe with gas gradient above.

D.F. = 2.12

- 1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))
- 2) MASP (Prod Casing) = Pore Pressure at TD (0.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD = 12.0 ppg) 0.22 psi/ft = gradient for partially evac wellbore (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

MASP 3,807 psi

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

(Burst Assumptions: TD = 12.0 ppg) 0.61 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

MABHP 5,940 psi

#### **CEMENT PROGRAM**

	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
Option 1		+ 0.25 pps flocele				
TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
		+ 2% CaCl + 0.25 pps flocele				
SURFACE		NOTE: If well will circulate water to sur	face, optio	n 2 will be ເ	ıtilized	
Option 2 LEAD	2,040'	65/35 Poz + 6% Gel + 10 pps gilsonite	190	35%	11.00	3.82
		+ 0.25 pps Flocele + 3% salt BWOW				
TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
		+ 0.25 pps flocele				
TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION LEAD	4,192'	Premium Lite II +0.25 pps	300	10%	11.00	3.38
		celloflake + 5 pps gilsonite + 10% gel				
		+ 0.5% extender				
TAIL	5,520'	50/50 Poz/G + 10% salt + 2% gel	1,060	10%	14.30	1.31
		+ 0.1% R-3				

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

#### **FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE

Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe

PRODUCTION

Float shoe, 1 jt, float collar. No centralizers will be used.

#### ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

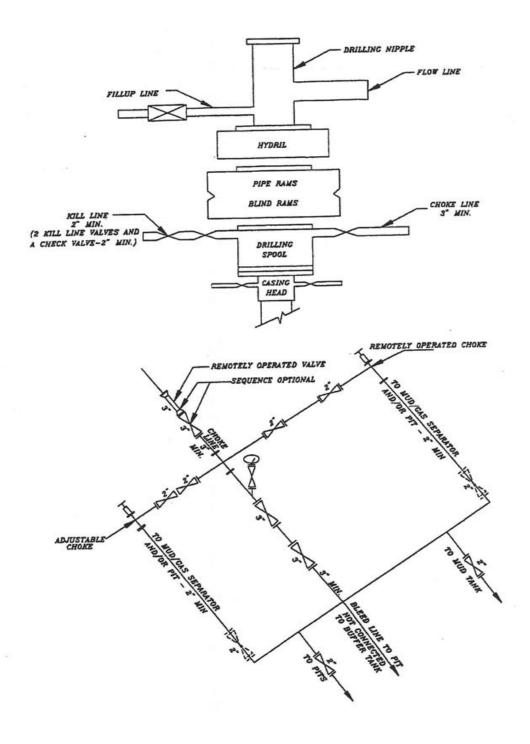
BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.
Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

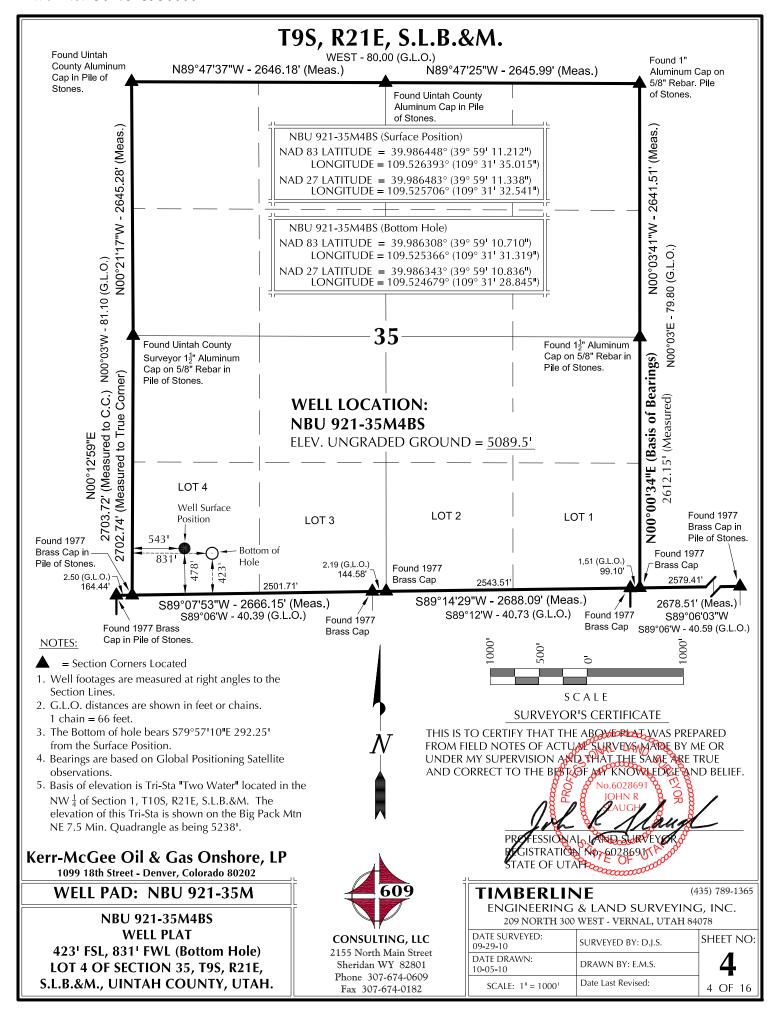
DRILLING ENGINEER:		DATE:	
	John Huycke / Emile Goodwin		
DRILLING SUPERINTENDENT:		DATE:	
	John Merkel / Lovel Young		

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

EXHIBIT A NBU 921-35M4BS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK



	CLIDE	URFACE POSITION					BOTTOM HOLE										
WELL NAME	N	AD83	SUKF	NAD27					NAD	)83	В	OTTOM H	NAD	127			
	LATITUDE	LONGIT	UDE	LATITUE			ITUDE	FOO	TAGES	LATIT			GITUDE	LATITU			FOOTAGES
NBU	39°59'11.06		.348" 3	9°59'11.	190"	109°31'			l' FSL	39°59'0			1'31.295"	39°59'07		109°31'28.821"	55' FSL
921-35M4CS	39.986407°	109.52648	,,,	9.986442		109.525	798°	517	<sup>1</sup> FWL	39.9852			25360°	39.98533		109.524673°	834' FWL
NBU	39°59'11.11	1.00 0.00		9°59'11.2		109°31'			) FSL				1'31.305"	39°59'17.		109°31'28.831"	
921-35M1BS NBU	39.986420° 39°59'11.16	109.52645 3" 109°31'35		9.986455 9°59'11.2		109.525 109°31'			' FWL I' FSL	39.9881			25363° 1'31.319"	39.98819 39°59'14		109.524675° 109°31'28.845"	830' FWL 760' FSL
921-35M1CS	39.986434°	109-31-33		9.986469		109-31			FFSL FWL	39.9872			25366°	39.98726		109-31-26.645° 109.524679°	830' FWL
NBU	39°59'11.21			9°59'11.3	$\overline{}$	109°31'			B' FSL				1'31.319"	39°59'10		109°31'28.845"	423' FSL
921-35M4BS	39.986448°	109.52639	93° 3	9.986483	3°	109.525			<sup>I</sup> FWL	39.9863			25366°	39.98634		109.524679°	831' FWL
	39°59'12.16	- 1103 31 33	.0.5	9°59'12.2	- 1	109°31'			' FSL								
NBU 69N2	39.986713°	109.52601	14°   3	9.986748		109.525			' FWL								
										Position							
WELL NAME	NORTH	EAST		NAME	NO	RTH	EAS	T	WELL	NAME	NOR	TH	EAST	WELL	NAM	E NORTH	EAST
NBU 921-35M4CS	-404.0¹	315.31	NBU	5M1BS	63	32.11	306.	7'	NBU 921-35	MICS	291.	.0'	296.7	NBU 921-3	EMAR	s -51.0'	287.81
921-33M4C3			921-3.	SMIIDS					921-33	WITCS				321-3.	J/VI7D	3	
	7	ASIS OF BETHE SE \$ OF IL.B.&M. WILLB.&M. WILLB	SECTIC HICH I SITION ONS TO	ON 35, T S TAKEN IING SA O BEAR I	T9S, FROM TELLINOO®	R21E, DM ITE	2°153.3' NBU 921-35M1BS (12.153.5' NBU 921-35M1CS (12.153.5' NBU 921-3	" NBU 921-35M4BS		185. 20 1 10 BOTH TO SEE TO SE	O Botto				Z=107'10	00.04722° "E - 292.25" Om Hole	
	Gee Oil  8th Street - E  L PAD -	Denver, Colo	rado 80	202	. <b>P</b> ≕¦			6	09		<del> </del>	A II	BERLI		S C A		35) 789-1365
VVEL	LTAD -	INDU 94	<u> </u>	7/41	_		1				11				ND.	SURVEYINC	
14/F1 F	DAD 11:1	.coccoc									-					NAL, UTAH 840	
	PAD INT							17		_	DATE			OU WEST	- vek		
WELLS - NB		•			$ \mathbf{S},  $		CONSU				DATE    09-29	E SURVI 9-10	TEU:	SURVE	YED B	Y: D.J.S.	SHEET NO:
	1-35M1C	•				- 2	2155 No					E DRAW	/N:			-	_
	ED IN SEC								Y 82801		10-05			DRAW	'N BY:	E.M.S.	<b>D</b>
	M., UINTA								74-060	9		CALE:	I" = 60'	Date La	ast Rev	rised:	F OF 16
J	, OH41/		,				Fax 3	v7-67	4-0182		3	CALE	. – 00	1			5 OF 16

#### **WELL PAD - NBU 921-35M DESIGN SUMMARY**

EXISTING GRADE @ CENTER OF WELL PAD = 5089.71 FINISHED GRADE ELEVATION = 5088.91 **CUT SLOPES = 1.5:1** FILL SLOPES = 1.5:1 **TOTAL WELL PAD AREA = 3.60 ACRES TOTAL DAMAGE AREA = 6.28 ACRES SHRINKAGE FACTOR = 1.10 SWELL FACTOR = 1.00** 

### Kerr-McGee Oil & Gas Onshore, LP

1099 18th Street - Denver, Colorado 80202

#### **WELL PAD - NBU 921-35M**

**WELL PAD - LOCATION LAYOUT** NBU 921-35M4CS, NBU 921-35M1BS, NBU 921-35M1CS & NBU 921-35M4BS LOCATED IN SECTION 35, T9S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH



2155 North Main Street

Sheridan, WY 82801

Phone 307-674-0609 Fax 307-674-0182

#### **WELL PAD QUANTITIES**

TOTAL CUT FOR WELL PAD = 21,038 C.Y. TOTAL FILL FOR WELL PAD = 3,161 C.Y. TOPSOIL @ 6" DEPTH = 1,989 C.Y. EXCESS MATERIAL = 17,877 C.Y.

#### RESERVE PIT QUANTITIES

**TOTAL CUT FOR RESERVE PIT** +/- 11.020 CY RESERVE PIT CAPACITY (2' OF FREEBOARD) +/- 42,290 BARRELS

#### (435) 789-1365 **TIMBERLINE** ENGINEERING & LAND SURVEYING, INC. 209 NORTH 300 WEST - VERNAL, UTAH 84078



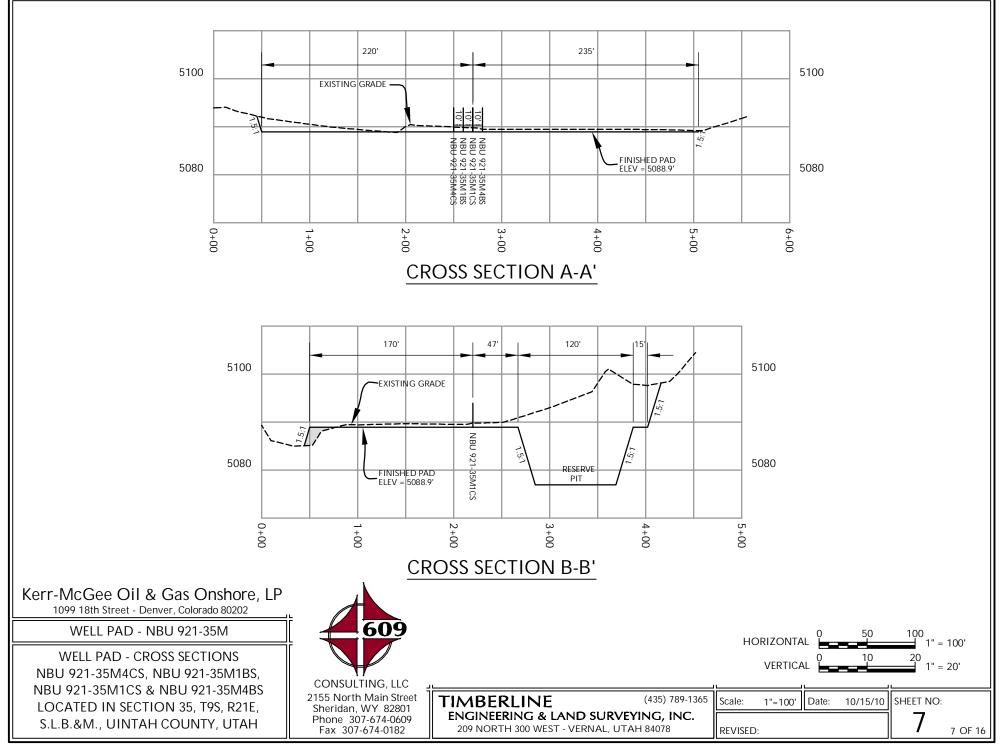
WELL PAD LEGEND

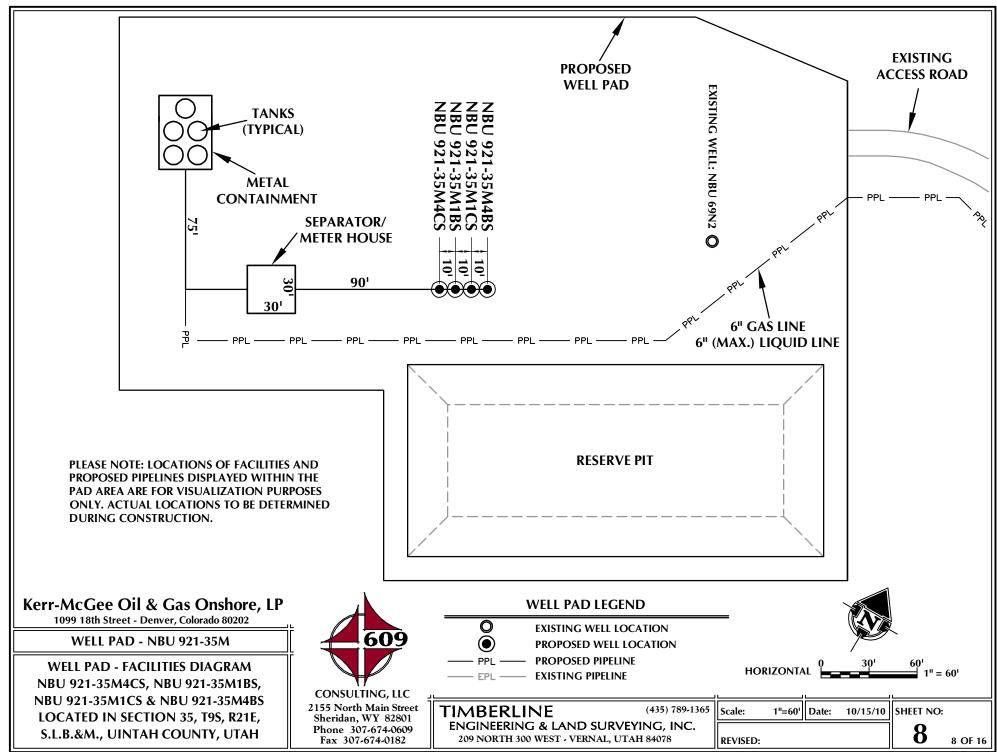
EXISTING WELL LOCATION

**REVISED:** 

6 6 OF 16







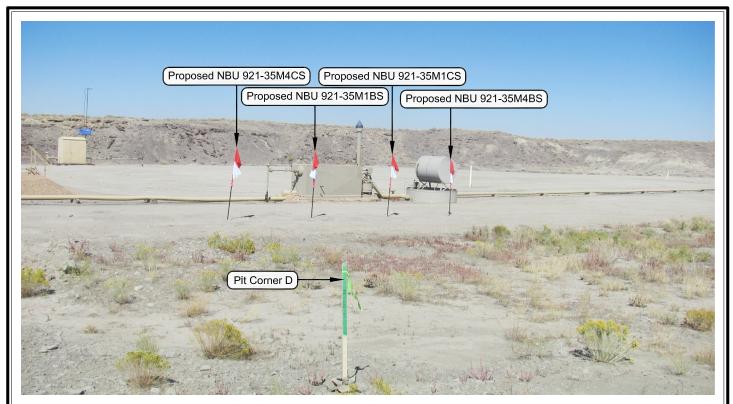


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

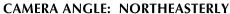




PHOTO VIEW: FROM EXISTING ACCESS ROAD

**CAMERA ANGLE: WESTERLY** 

#### Kerr-McGee Oil & Gas Onshore, LP 1099 18th Street - Denver, Colorado 80202

#### WELL PAD - NBU 921-35M

LOCATION PHOTOS
NBU 921-35M4CS, NBU 921-35M1BS,
NBU 921-35M1CS & NBU 921-35M4BS
LOCATED IN SECTION 35, T9S, R21E,
S.L.B.&M., UINTAH COUNTY, UTAH.



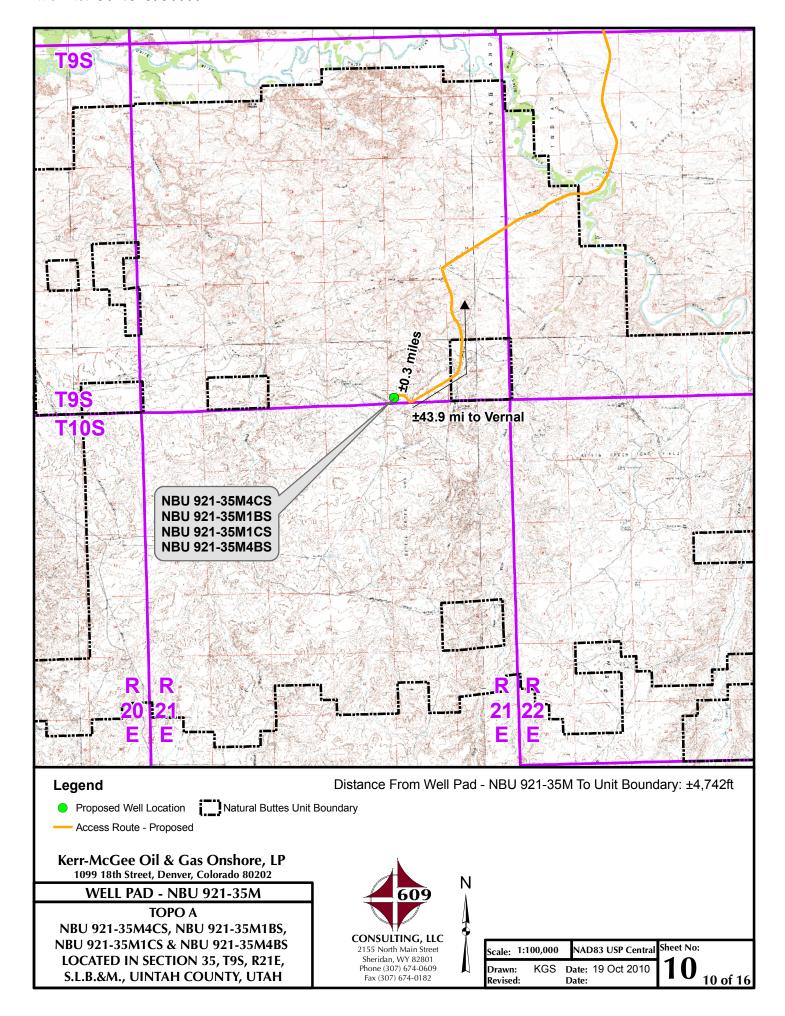
#### CONSULTING, LLC 2155 North Main Street Sheridan WY 82801 Phone 307-674-0609 Fax 307-674-0182

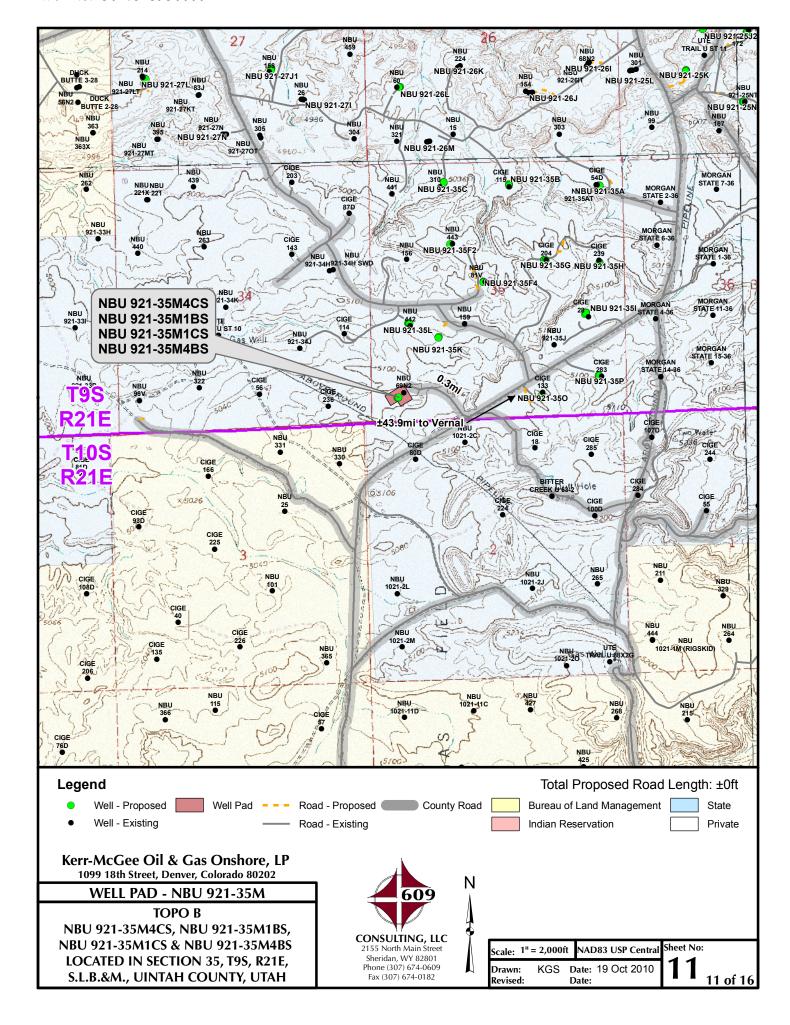
#### TIMBERLINE

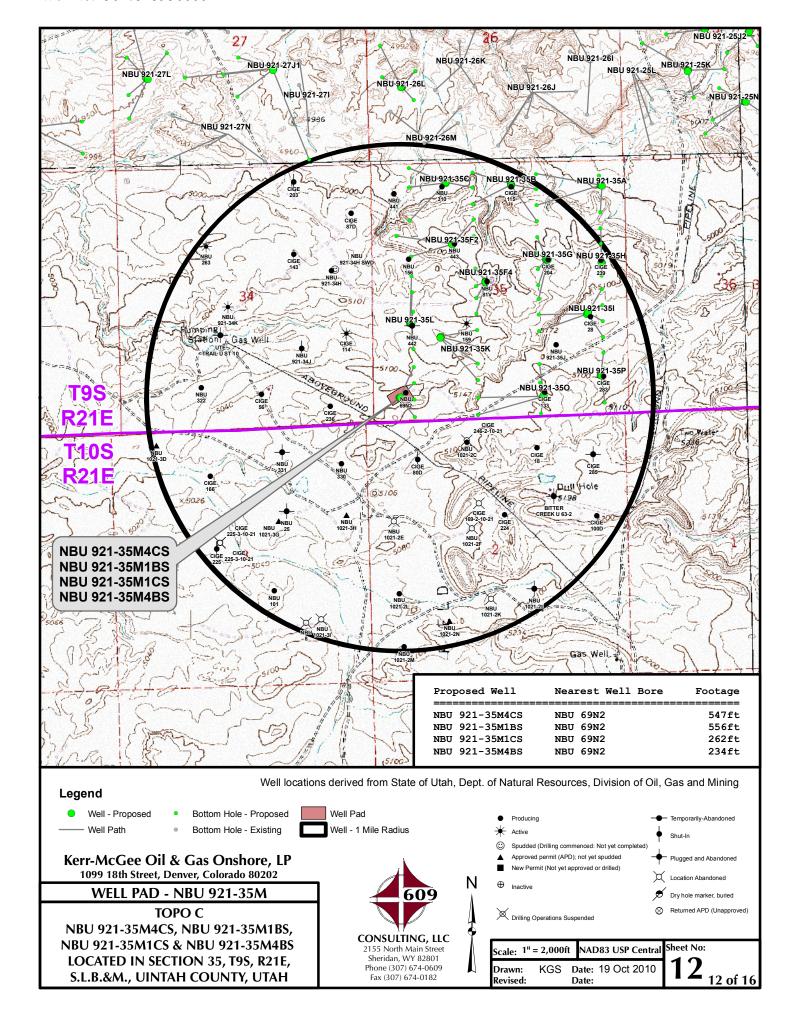
(435) 789-1365

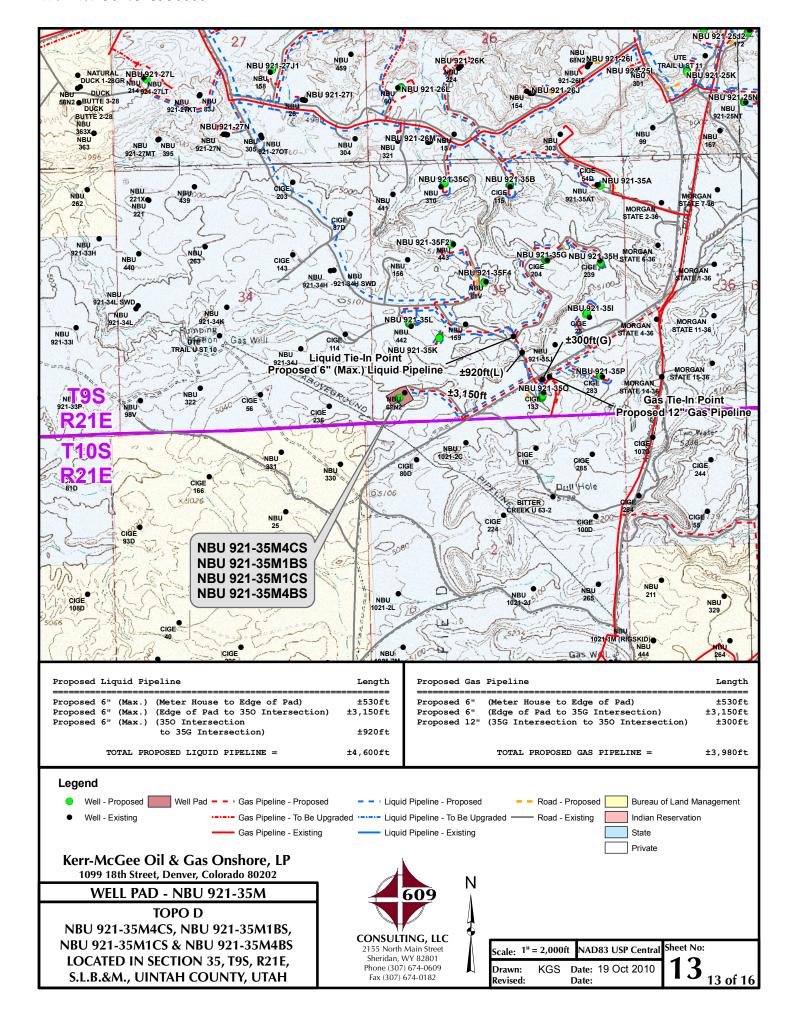
ENGINEERING & LAND SURVEYING, INC. 209 NORTH 300 WEST - VERNAL, UTAH 84078

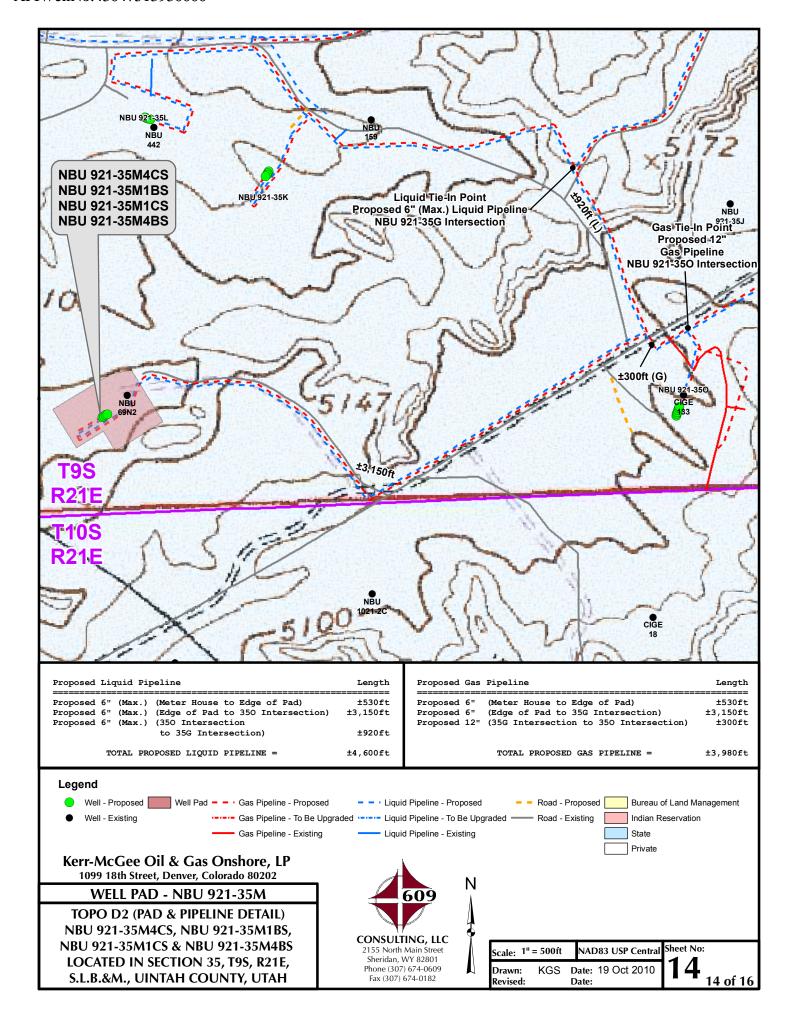
209 NORTH 300	WEST - VERNAL, UTAH 84	078
DATE PHOTOS TAKEN: 09-29-10	PHOTOS TAKEN BY: D.J.S.	SHEET NO:
DATE DRAWN: 10-05-10	DRAWN BY: E.M.S.	9
Date Last Revised:		9 OF 16

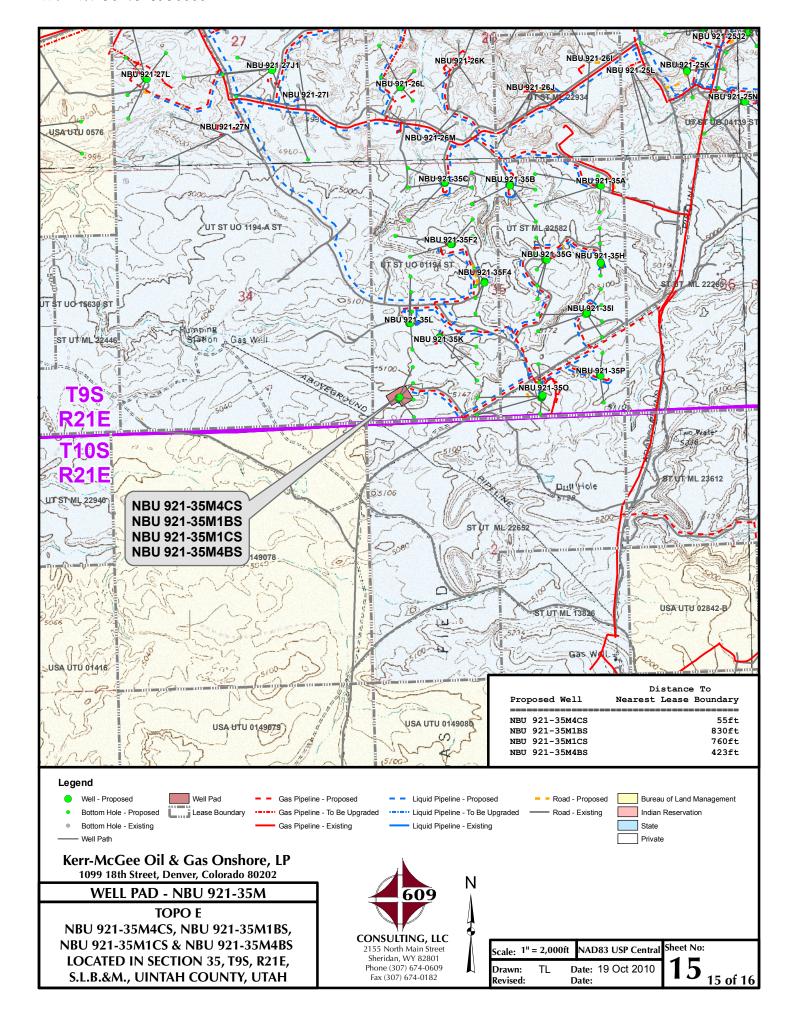












### Kerr-McGee Oil & Gas Onshore, LP WELL PAD – NBU 921-35M WELLS – NBU 921-35M4CS, NBU 921-35M1BS, NBU 921-35M1CS & NBU 921-35M4BS Section 35, T9S, R21E, S.L.B.&M.

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 20.4 miles to a Class D County Road to the northwest. Exit right and proceed in a northwesterly direction along the Class D County Road approximately 0.3 miles to the proposed well pad.

Total distance from Vernal, Utah to the proposed well location is approximately 44.2 miles in a southerly direction.

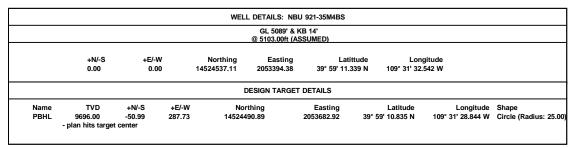


**Project: Uintah County, UT UTM12** Site: NBU 921-35M PAD

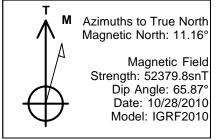
Well: NBU 921-35M4BS

Wellbore: OH Design: PLAN #1

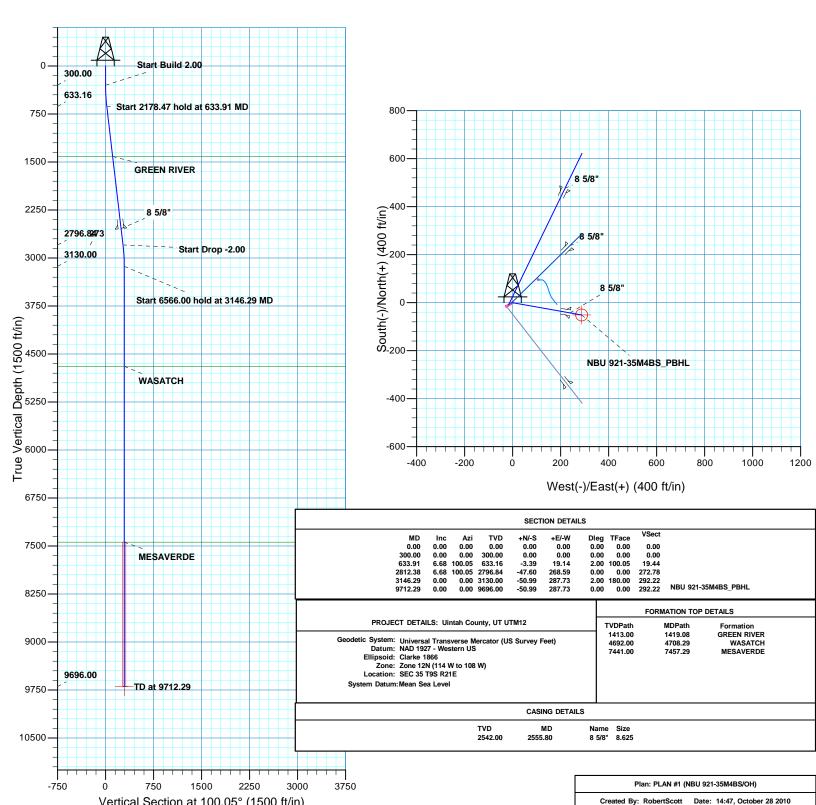




Vertical Section at 100.05° (1500 ft/in)



Created By: RobertScott





# **Kerr McGee Oil and Gas Onshore LP**

Uintah County, UT UTM12 NBU 921-35M PAD NBU 921-35M4BS

ОН

Plan: PLAN #1

## **Standard Planning Report**

28 October, 2010







EDM5000-RobertS-Local Database:

Company: Kerr McGee Oil and Gas Onshore LP

Project: Uintah County, UT UTM12

NBU 921-35M PAD Site: Well: NBU 921-35M4BS

Wellbore: ОН Design: PLAN #1 Local Co-ordinate Reference:

TVD Reference:

MD Reference:

GL 5089' & KB 14' @ 5103.00ft (ASSUMED)

GL 5089' & KB 14' @ 5103.00ft (ASSUMED)

100.05

Well NBU 921-35M4BS

North Reference: **Survey Calculation Method:** 

Minimum Curvature

Project Uintah County, UT UTM12

Map System: Universal Transverse Mercator (US Survey Feet)

NAD 1927 - Western US Geo Datum: Zone 12N (114 W to 108 W)

System Datum: Mean Sea Level

Map Zone:

NBU 921-35M PAD, SEC 35 T9S R21E Site

Northing: 14,524,537.11 usft 39° 59' 11.339 N Site Position: Latitude: From: Lat/Long Easting: 2,053,394.37 usft Longitude: 109° 31' 32.542 W

**Position Uncertainty:** 0.00 ft Slot Radius: 13.200 in **Grid Convergence:** 0.95°

Well NBU 921-35M4BS, 478' FSL 543' FWL

14,524,537.11 usft 39° 59' 11.339 N **Well Position** +N/-S 0.00 ft Latitude: Northing:

+E/-W 0.00 ft Easting: 2,053,394.37 usft Longitude: 109° 31' 32.542 W

**Position Uncertainty** 0.00 ft Wellhead Elevation: **Ground Level:** 5.089.00 ft

ОН Wellbore Declination Dip Angle Field Strength Magnetics **Model Name** Sample Date (°) (°) (nT) IGRF2010 10/28/2010 11.16 65.87 52,380

PLAN #1 Design **Audit Notes:** PLAN 0.00 Version: Phase: Tie On Depth: +N/-S Vertical Section: Depth From (TVD) +E/-W Direction (ft) (ft) (ft) (°)

0.00

0.00

0.00

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
633.91	6.68	100.05	633.16	-3.39	19.14	2.00	2.00	0.00	100.05	
2,812.38	6.68	100.05	2,796.85	-47.60	268.59	0.00	0.00	0.00	0.00	
3,146.29	0.00	0.00	3,130.00	-50.99	287.73	2.00	-2.00	0.00	180.00	
9,712.29	0.00	0.00	9,696.00	-50.99	287.73	0.00	0.00	0.00	0.00	NBU 921-35M4BS_PI





Database: EDM5000-RobertS-Local

Company: Kerr McGee Oil and Gas Onshore LP

Project: Uintah County, UT UTM12

 Site:
 NBU 921-35M PAD

 Well:
 NBU 921-35M4BS

Wellbore: OH
Design: PLAN #1

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

**Survey Calculation Method:** 

Well NBU 921-35M4BS GL 5089' & KB 14'

@ 5103.00ft (ASSUMED) GL 5089' & KB 14'

@ 5103.00ft (ASSUMED) True

Minimum Curvature

ed Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2		0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	2.00	100.05	399.98	-0.30	1.72	1.75	2.00	2.00	0.00
500.00	4.00	100.05	499.84	-1.22	6.87	6.98	2.00	2.00	0.00
600.00	6.00	100.05	599.45	-2.74	15.45	15.69	2.00	2.00	0.00
633.91	6.68	100.05	633.16	-3.39	19.14	19.44	2.00	2.00	0.00
Start 2178.4	7 hold at 633.91	MD							
700.00	6.68	100.05	698.80	-4.73	26.71	27.12	0.00	0.00	0.00
800.00	6.68	100.05	798.12	-6.76	38.16	38.75	0.00	0.00	0.00
900.00	6.68	100.05	897.44	-8.79	49.61	50.38	0.00	0.00	0.00
1,000.00	6.68	100.05	996.76	-10.82	61.06	62.01	0.00	0.00	0.00
1,100.00	6.68	100.05	1,096.08	-12.85	72.51	73.64	0.00	0.00	0.00
1,200.00	6.68	100.05	1,195.40	-14.88	83.96	85.27	0.00	0.00	0.00
1,300.00	6.68	100.05	1,294.73	-16.91	95.41	96.90	0.00	0.00	0.00
1,400.00	6.68 6.68	100.05 100.05	1,394.05	-18.94	106.86 109.05	108.53 110.75	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
1,419.08 GREEN RIVI		100.05	1,413.00	-19.32	109.05	110.75	0.00	0.00	0.00
1,500.00	6.68	100.05	1,493.37	-20.97	118.31	120.16	0.00	0.00	0.00
1,600.00	6.68	100.05	1,592.69	-22.99	129.77	131.79	0.00	0.00	0.00
1,700.00	6.68	100.05	1,692.01	-25.02	141.22	143.42	0.00	0.00	0.00
1,800.00	6.68	100.05	1,791.33	-27.05	152.67	155.05	0.00	0.00	0.00
1,900.00	6.68	100.05	1,890.65	-29.08	164.12	166.68	0.00	0.00	0.00
2,000.00	6.68	100.05	1,989.98	-31.11	175.57	178.30	0.00	0.00	0.00
2,100.00	6.68	100.05	2,089.30	-33.14	187.02	189.93	0.00	0.00	0.00
2,200.00	6.68	100.05	2,188.62	-35.17	198.47	201.56	0.00	0.00	0.00
2,300.00	6.68	100.05	2,287.94	-37.20	209.92	213.19	0.00	0.00	0.00
2,400.00	6.68	100.05	2,387.26	-39.23	221.37	224.82	0.00	0.00	0.00
2,500.00	6.68	100.05	2,486.58	-41.26	232.82	236.45	0.00	0.00	0.00
2,555.80	6.68	100.05	2,542.00	-42.39	239.21	242.94	0.00	0.00	0.00
<b>8 5/8"</b> 2,600.00	6.68	100.05	2,585.90	-43.29	244.27	248.08	0.00	0.00	0.00
2,700.00	6.68	100.05	2,685.23	-45.32	255.73	259.71	0.00	0.00	0.00
2,800.00	6.68	100.05	2,784.55	-47.34	267.18	271.34	0.00	0.00	0.00
2,812.38	6.68	100.05	2,796.85	-47.60	268.59	272.78	0.00	0.00	0.00
Start Drop -2	2.00								
2,900.00	4.93	100.05	2,884.01	-49.14	277.32	281.64	2.00	-2.00	0.00
3,000.00	2.93	100.05	2,983.77	-50.34	284.06	288.48	2.00	-2.00	0.00
3,100.00	0.93	100.05	3,083.71	-50.92	287.37	291.84	2.00	-2.00	0.00
3,146.29	0.00	0.00	3,130.00	-50.99	287.73	292.22	2.00	-2.00	-216.12
	0 hold at 3146.29								
3,200.00	0.00	0.00	3,183.71	-50.99	287.73	292.22	0.00	0.00	0.00
3,300.00	0.00	0.00	3,283.71	-50.99	287.73	292.22	0.00	0.00	0.00
3,400.00	0.00	0.00	3,383.71	-50.99	287.73	292.22	0.00	0.00	0.00
3,500.00	0.00	0.00	3,483.71	-50.99	287.73	292.22	0.00	0.00	0.00
3,600.00	0.00	0.00	3,583.71	-50.99	287.73	292.22	0.00	0.00	0.00
3,700.00	0.00	0.00	3,683.71	-50.99	287.73	292.22	0.00	0.00	0.00
3,800.00	0.00	0.00	3,783.71	-50.99	287.73	292.22	0.00	0.00	0.00
3,900.00	0.00	0.00	3,883.71	-50.99	287.73	292.22	0.00	0.00	0.00





Database: EDM5000-RobertS-Local

Company: Kerr McGee Oil and Gas Onshore LP

Project: Uintah County, UT UTM12

 Site:
 NBU 921-35M PAD

 Well:
 NBU 921-35M4BS

Wellbore: OH
Design: PLAN #1

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

**Survey Calculation Method:** 

Well NBU 921-35M4BS

GL 5089' & KB 14' @ 5103.00ft (ASSUMED) GL 5089' & KB 14'

@ 5103.00ft (ASSUMED) True

Minimum Curvature

lanned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,000.00	0.00	0.00	3,983.71	-50.99	287.73	292.22	0.00	0.00	0.00
4,100.00	0.00	0.00	4,083.71	-50.99	287.73	292.22	0.00	0.00	0.00
4,200.00	0.00	0.00	4,183.71	-50.99	287.73	292.22	0.00	0.00	0.00
4,300.00	0.00	0.00	4,283.71	-50.99	287.73	292.22	0.00	0.00	0.00
4,400.00	0.00	0.00	4,383.71	-50.99	287.73	292.22	0.00	0.00	0.00
4.500.00	0.00	0.00	4,483.71	-50.99	287.73	292.22	0.00	0.00	0.00
4,600.00	0.00	0.00	4,583.71	-50.99	287.73	292.22	0.00	0.00	0.00
4,700.00	0.00	0.00	4,683.71	-50.99	287.73	292.22	0.00	0.00	0.00
4,708.29	0.00	0.00	4,692.00	-50.99	287.73	292.22	0.00	0.00	0.00
WASATCH	0.00	0.00	4,002.00	00.00	207.70	202.22	0.00	0.00	0.00
	0.00	0.00	4 702 74	E0 00	207.72	292.22	0.00	0.00	0.00
4,800.00	0.00	0.00	4,783.71	-50.99	287.73	292.22	0.00	0.00	0.00
4,900.00	0.00	0.00	4,883.71	-50.99	287.73	292.22	0.00	0.00	0.00
5,000.00	0.00	0.00	4,983.71	-50.99	287.73	292.22	0.00	0.00	0.00
5,100.00	0.00	0.00	5,083.71	-50.99	287.73	292.22	0.00	0.00	0.00
5,200.00	0.00	0.00	5,183.71	-50.99	287.73	292.22	0.00	0.00	0.00
5,300.00	0.00	0.00	5,283.71	-50.99	287.73	292.22	0.00	0.00	0.00
							0.00		
5,400.00	0.00 0.00	0.00 0.00	5,383.71 5,483.71	-50.99 -50.99	287.73 287.73	292.22 292.22	0.00 0.00	0.00 0.00	0.00 0.00
5,500.00									
5,600.00	0.00	0.00	5,583.71	-50.99	287.73	292.22	0.00	0.00	0.00
5,700.00	0.00	0.00	5,683.71	-50.99	287.73	292.22	0.00	0.00	0.00
5,800.00	0.00	0.00	5,783.71	-50.99	287.73	292.22	0.00	0.00	0.00
5,900.00	0.00	0.00	5,883.71	-50.99	287.73	292.22	0.00	0.00	0.00
6,000.00	0.00	0.00	5,983.71	-50.99	287.73	292.22	0.00	0.00	0.00
6,100.00	0.00	0.00	6,083.71	-50.99	287.73	292.22	0.00	0.00	0.00
6,200.00	0.00	0.00	6,183.71	-50.99	287.73	292.22	0.00	0.00	0.00
6,300.00	0.00	0.00	6,283.71	-50.99	287.73	292.22	0.00	0.00	0.00
6,400.00	0.00	0.00	6,383.71	-50.99	287.73	292.22	0.00	0.00	0.00
6,500.00	0.00	0.00	6,483.71	-50.99	287.73	292.22	0.00	0.00	0.00
6,600.00	0.00	0.00	6,583.71	-50.99	287.73	292.22	0.00	0.00	0.00
6,700.00	0.00	0.00	6,683.71	-50.99	287.73	292.22	0.00	0.00	0.00
6,800.00	0.00	0.00	6,783.71	-50.99	287.73	292.22	0.00	0.00	0.00
6,900.00	0.00	0.00	6,883.71	-50.99	287.73	292.22	0.00	0.00	0.00
7,000.00	0.00	0.00	6,983.71	-50.99	287.73	292.22	0.00	0.00	0.00
7,100.00	0.00	0.00	7,083.71	-50.99	287.73	292.22	0.00	0.00	0.00
7,200.00	0.00	0.00	7,183.71	-50.99	287.73	292.22	0.00	0.00	0.00
7,300.00	0.00	0.00	7,283.71	-50.99	287.73	292.22	0.00	0.00	0.00
			7,383.71						
7,400.00	0.00 0.00	0.00 0.00		-50.99 -50.99	287.73 287.73	292.22 292.22	0.00 0.00	0.00 0.00	0.00 0.00
7,457.29		0.00	7,441.00	-50.99	281.13	292.22	0.00	0.00	0.00
MESAVERD					000	000.00			
7,500.00	0.00	0.00	7,483.71	-50.99	287.73	292.22	0.00	0.00	0.00
7,600.00	0.00	0.00	7,583.71	-50.99	287.73	292.22	0.00	0.00	0.00
7,700.00	0.00	0.00	7,683.71	-50.99	287.73	292.22	0.00	0.00	0.00
7,800.00	0.00	0.00	7,783.71	-50.99	287.73	292.22	0.00	0.00	0.00
7,900.00	0.00	0.00	7,883.71	-50.99	287.73	292.22	0.00	0.00	0.00
8,000.00	0.00	0.00	7,983.71	-50.99	287.73	292.22	0.00	0.00	0.00
8,100.00	0.00	0.00	8,083.71	-50.99	287.73	292.22	0.00	0.00	0.00
8,200.00	0.00	0.00	8,183.71	-50.99	287.73	292.22	0.00	0.00	0.00
8,300.00	0.00	0.00	8,283.71	-50.99	287.73	292.22	0.00	0.00	0.00
8,400.00	0.00	0.00	8,383.71	-50.99	287.73	292.22	0.00	0.00	0.00
8,500.00	0.00	0.00	8,483.71	-50.99	287.73	292.22	0.00	0.00	0.00
8,600.00	0.00	0.00	8,583.71	-50.99	287.73	292.22	0.00	0.00	0.00
8,700.00	0.00	0.00	8,683.71	-50.99	287.73	292.22	0.00	0.00	0.00





Database: EDM5000-RobertS-Local

Company: Kerr McGee Oil and Gas Onshore LP

Project: Uintah County, UT UTM12

 Site:
 NBU 921-35M PAD

 Well:
 NBU 921-35M4BS

Wellbore: OH
Design: PLAN #1

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference: Survey Calculation Method: Well NBU 921-35M4BS GL 5089' & KB 14'

@ 5103.00ft (ASSUMED) GL 5089' & KB 14'

@ 5103.00ft (ASSUMED) True

Minimum Curvature

nned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,800.00	0.00	0.00	8,783.71	-50.99	287.73	292.22	0.00	0.00	0.00
8,900.00	0.00	0.00	8,883.71	-50.99	287.73	292.22	0.00	0.00	0.00
9,000.00	0.00	0.00	8,983.71	-50.99	287.73	292.22	0.00	0.00	0.00
9,100.00	0.00	0.00	9,083.71	-50.99	287.73	292.22	0.00	0.00	0.00
9,200.00	0.00	0.00	9,183.71	-50.99	287.73	292.22	0.00	0.00	0.00
9,300.00	0.00	0.00	9,283.71	-50.99	287.73	292.22	0.00	0.00	0.00
9,400.00	0.00	0.00	9,383.71	-50.99	287.73	292.22	0.00	0.00	0.00
9,500.00	0.00	0.00	9,483.71	-50.99	287.73	292.22	0.00	0.00	0.00
9,600.00	0.00	0.00	9,583.71	-50.99	287.73	292.22	0.00	0.00	0.00
9,700.00	0.00	0.00	9,683.71	-50.99	287.73	292.22	0.00	0.00	0.00
9,712.29	0.00	0.00	9,696.00	-50.99	287.73	292.22	0.00	0.00	0.00
NBU 921-35I	M4BS_PBHL								

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
NBU 921-35M4BS_PBH - plan hits target cent - Circle (radius 25.00		0.00	9,696.00	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.844 W

Casing Points					
	Measured Depth	Vertical Depth		Casing Diameter	Hole Diameter
	(ft)	(ft)	Name	(in)	(in)
	2,555.80	2,542.00	8 5/8"	8.625	11.000

Formations							
	Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
	1,419.08	1,413.00	GREEN RIVER				
	4,708.29	4,692.00	WASATCH				
	7,457.29	7,441.00	MESAVERDE				

Plan Annotations				
Measure Depth	d Vertical Depth	Local C	oordinates +E/-W	
(ft)	(ft)	(ft)	(ft)	Comment
300	.00 300.00	0.00	0.00	Start Build 2.00
633	.91 633.16	-3.39	19.14	Start 2178.47 hold at 633.91 MD
2,812	.38 2,796.85	-47.60	268.59	Start Drop -2.00
3,146	.29 3,130.00	-50.99	287.73	Start 6566.00 hold at 3146.29 MD
9,712	.29 9,696.00	-50.99	287.73	TD at 9712.29



# **Kerr McGee Oil and Gas Onshore LP**

Uintah County, UT UTM12 NBU 921-35M PAD NBU 921-35M4BS

ОН

Plan: PLAN #1

## **Survey Report - Geographic**

28 October, 2010







Kerr McGee Oil and Gas Onshore LP Company:

Uintah County, UT UTM12 Project:

Site: NBU 921-35M PAD

Well: NBU 921-35M4BS

Wellbore: ОН PLAN #1 Design:

Geo Datum:

Map Zone:

Local Co-ordinate Reference:

**TVD Reference:** 

@ 5103.00ft (ASSUMED) GL 5089' & KB 14' MD Reference: @ 5103.00ft (ASSUMED)

Well NBU 921-35M4BS

GL 5089' & KB 14'

Mean Sea Level

True

North Reference:

Minimum Curvature **Survey Calculation Method:** Database: EDM5000-RobertS-Local

Uintah County, UT UTM12 **Project** 

Universal Transverse Mercator (US Survey Feet) Map System:

NAD 1927 - Western US

Zone 12N (114 W to 108 W)

Site NBU 921-35M PAD, SEC 35 T9S R21E

Northing: 14,524,537.11 usft 39° 59' 11.339 N Site Position: Latitude: Easting: Lat/Long 2,053,394.37 usft Longitude: 109° 31' 32.542 W From: 0.00 ft Grid Convergence: **Position Uncertainty:** Slot Radius: 13.200 in 0.95

System Datum:

Well NBU 921-35M4BS, 478' FSL 543' FWL **Well Position** +N/-S 0.00 ft Northing: 14,524,537.11 usft Latitude: 39° 59' 11.339 N +E/-W 0.00 ft Easting: 2,053,394.37 usft Longitude: 109° 31' 32.542 W **Position Uncertainty** 0.00 ft Wellhead Elevation: Ground Level: 5,089.00 ft

ОН Wellbore Magnetics Declination Field Strength **Model Name** Sample Date Dip Angle (°) (°) (nT) IGRF2010 10/28/2010 11.16 65.87 52,380

Design PLAN #1 Audit Notes: Version: Phase: PLAN Tie On Depth: 0.00 Vertical Section: Depth From (TVD) +N/-S +E/-W Direction (ft) (ft) (ft) (°) 0.00 100.05 0.00 0.00

Date 10/28/2010 **Survey Tool Program** From То (ft) (ft) Survey (Wellbore) **Tool Name** Description 0.00 9,712.29 PLAN #1 (OH) MWD SDI MWD - Standard ver 1.0.1

Planned Survey	/								
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,524,537.11	2,053,394.37	39° 59' 11.339 N	109° 31' 32.542 W
100.00	0.00	0.00	100.00	0.00	0.00	14,524,537.11	2,053,394.37	39° 59' 11.339 N	109° 31' 32.542 W
200.00	0.00	0.00	200.00	0.00	0.00	14,524,537.11	2,053,394.37	39° 59' 11.339 N	109° 31' 32.542 W
300.00	0.00	0.00	300.00	0.00	0.00	14,524,537.11	2,053,394.37	39° 59' 11.339 N	109° 31' 32.542 W
Start Bu	ild 2.00								
400.00	2.00	100.05	399.98	-0.30	1.72	14,524,536.84	2,053,396.10	39° 59' 11.336 N	109° 31' 32.520 W
500.00	4.00	100.05	499.84	-1.22	6.87	14,524,536.01	2,053,401.26	39° 59' 11.327 N	109° 31' 32.453 W
600.00	6.00	100.05	599.45	-2.74	15.45	14,524,534.63	2,053,409.87	39° 59' 11.312 N	109° 31' 32.343 W
633.91	6.68	100.05	633.16	-3.39	19.14	14,524,534.04	2,053,413.57	39° 59' 11.305 N	109° 31' 32.296 W
Start 217	78.47 hold at (	33.91 MD							





Kerr McGee Oil and Gas Onshore LP Company:

Project: Uintah County, UT UTM12

Site: NBU 921-35M PAD

NBU 921-35M4BS Well:

Wellbore: Design: PLAN #1 Local Co-ordinate Reference:

TVD Reference:

MD Reference:

Database:

North Reference:

GL 5089' & KB 14' @ 5103.00ft (ASSUMED) GL 5089' & KB 14' @ 5103.00ft (ASSUMED)

Well NBU 921-35M4BS

True

**Survey Calculation Method:** Minimum Curvature EDM5000-RobertS-Local

ned Survey leasured			Vertical			Мар	Мар		
Depth (ft)	Inclination (°)	Azimuth (°)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
700.00	6.68	100.05	698.80	-4.73	26.71	14,524,532.82	2,053,421.16	39° 59' 11.292 N	109° 31' 32.1
800.00	6.68	100.05	798.12	-6.76	38.16	14,524,530.98	2,053,432.64	39° 59' 11.272 N	109° 31' 32.0
900.00	6.68	100.05	897.44	-8.79	49.61	14,524,529.14	2,053,444.12	39° 59' 11.252 N	109° 31' 31.9
1,000.00	6.68	100.05	996.76	-10.82	61.06	14,524,527.30	2,053,455.60	39° 59' 11.232 N	109° 31' 31.7
1,100.00	6.68	100.05	1,096.08	-12.85	72.51	14,524,525.46	2,053,467.09	39° 59' 11.212 N	109° 31' 31.6
1,200.00	6.68	100.05	1,195.40	-14.88	83.96	14,524,523.63	2,053,478.57	39° 59' 11.192 N	109° 31' 31.4
1,300.00	6.68	100.05	1,294.73	-16.91	95.41	14,524,521.79	2,053,490.05	39° 59' 11.172 N	109° 31' 31.3
1,400.00	6.68	100.05	1,394.05	-18.94	106.86	14,524,519.95	2,053,501.54	39° 59' 11.152 N	109° 31' 31.10
1,419.08	6.68	100.05	1,413.00	-19.32	109.05	14,524,519.60	2,053,503.73	39° 59' 11.148 N	109° 31' 31.14
GREEN F									
1,500.00	6.68	100.05	1,493.37	-20.97	118.31	14,524,518.11	2,053,513.02	39° 59' 11.132 N	109° 31' 31.0
1,600.00	6.68	100.05	1,592.69	-22.99	129.77	14,524,516.27	2,053,524.50	39° 59' 11.112 N	109° 31' 30.8'
1,700.00	6.68	100.05	1,692.01	-25.02	141.22	14,524,514.43	2,053,535.99	39° 59' 11.091 N	109° 31' 30.7
1,800.00	6.68	100.05	1,791.33	-27.05	152.67	14,524,512.59	2,053,547.47	39° 59' 11.071 N	109° 31' 30.5
1,900.00	6.68	100.05	1,890.65	-29.08	164.12	14,524,510.75	2,053,558.95	39° 59' 11.051 N	109° 31' 30.4
2,000.00	6.68	100.05	1,989.98	-31.11	175.57	14,524,508.91	2,053,570.43	39° 59' 11.031 N	109° 31' 30.2
2,100.00	6.68	100.05	2,089.30	-33.14	187.02	14,524,507.07	2,053,581.92	39° 59' 11.011 N	109° 31' 30.1
2,200.00	6.68	100.05	2,188.62	-35.17	198.47	14,524,505.23	2,053,593.40	39° 59' 10.991 N	109° 31' 29.9
2,300.00	6.68	100.05	2,287.94	-37.20	209.92	14,524,503.39	2,053,604.88	39° 59' 10.971 N	109° 31' 29.8
2,400.00	6.68	100.05	2,387.26	-39.23	221.37	14,524,501.55	2,053,616.37	39° 59' 10.951 N	109° 31' 29.6
2,500.00	6.68	100.05	2,486.58	-41.26	232.82	14,524,499.71	2,053,627.85	39° 59' 10.931 N	109° 31' 29.5
2,555.80	6.68	100.05	2,542.00	-42.39	239.21	14,524,498.69	2,053,634.26	39° 59' 10.920 N	109° 31' 29.46
8 5/8"									
2,600.00	6.68	100.05	2,585.90	-43.29	244.27	14,524,497.87	2,053,639.33	39° 59' 10.911 N	109° 31' 29.40
2,700.00	6.68	100.05	2,685.23	-45.32	255.73	14,524,496.03	2,053,650.81	39° 59' 10.891 N	109° 31' 29.2
2,800.00	6.68	100.05	2,784.55	-47.34 47.60	267.18	14,524,494.19	2,053,662.30	39° 59' 10.871 N	109° 31' 29.10
2,812.38	6.68	100.05	2,796.85	-47.60	268.59	14,524,493.97	2,053,663.72	39° 59' 10.868 N	109° 31' 29.09
Start Dro 2,900.00	•	100.05	2,884.01	-49.14	277.32	14,524,492.56	2,053,672.46	39° 59' 10.853 N	109° 31' 28.9
3,000.00	4.93 2.93	100.05	2,004.01	-49.14 -50.34	284.06	14,524,492.56	2,053,672.46	39° 59' 10.841 N	109 31 28.89 109° 31' 28.89
3,100.00	0.93	100.05	3,083.71	-50.92	287.37	14,524,491.46	2,053,682.54	39° 59' 10.835 N	109 31 28.84 109° 31' 28.84
3,146.29	0.00	0.00	3,130.00	-50.92	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.84
	6.00 hold at 3		3,130.00	-50.99	201.13	14,324,430.03	2,000,002.91	39 39 10.03311	109 31 20.0-
3,200.00	0.00 Hold at 3	0.00	3,183.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
3,300.00	0.00	0.00	3,283.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
3,400.00	0.00	0.00	3,383.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
3,500.00	0.00	0.00	3,483.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
3,600.00	0.00	0.00	3,583.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
3,700.00	0.00	0.00	3,683.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
3,800.00	0.00	0.00	3,783.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
3,900.00	0.00	0.00	3,883.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
4,000.00	0.00	0.00	3,983.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
4,100.00	0.00	0.00	4,083.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
4,200.00	0.00	0.00	4,183.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
4,300.00	0.00	0.00	4,283.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
4,400.00	0.00	0.00	4,383.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
4,500.00	0.00	0.00	4,483.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
4,600.00	0.00	0.00	4,583.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
4,700.00	0.00	0.00	4,683.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
4,708.29	0.00	0.00	4,692.00	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
WASATO						, ,	, , , , , , , , ,		
4,800.00	0.00	0.00	4,783.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8





Company: Kerr McGee Oil and Gas Onshore LP

Project: Uintah County, UT UTM12

Site: NBU 921-35M PAD

Well: NBU 921-35M4BS

Wellbore: OH
Design: PLAN #1

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

Well NBU 921-35M4BS GL 5089' & KB 14' @ 5103.00ft (ASSUMED) GL 5089' & KB 14'

@ 5103.00ft (ASSUMED)

North Reference: True

Survey Calculation Method: Minimum Curvature

Database: EDM5000-RobertS-Local

leasured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,900.00	0.00	0.00	4,883.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
5,000.00	0.00	0.00	4,983.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
5,100.00	0.00	0.00	5,083.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
5,200.00	0.00	0.00	5,183.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
5,300.00	0.00	0.00	5,283.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
5,400.00	0.00	0.00	5,383.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
5,500.00	0.00	0.00	5,483.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
5,600.00	0.00	0.00	5,583.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
5,700.00	0.00	0.00	5,683.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
5,800.00	0.00	0.00	5,783.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
5,900.00	0.00	0.00	5,883.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
6,000.00	0.00	0.00	5,983.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
6,100.00	0.00	0.00	6,083.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
6,200.00	0.00	0.00	6,183.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
6,300.00	0.00	0.00	6,283.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
6,400.00	0.00	0.00	6,383.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
6,500.00	0.00	0.00	6,483.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
6,600.00	0.00	0.00	6,583.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
6,700.00	0.00	0.00	6,683.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
6,800.00	0.00	0.00	6,783.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
6,900.00	0.00	0.00	6,883.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
7,000.00	0.00	0.00	6,983.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
7,100.00	0.00	0.00	7,083.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
7,200.00	0.00	0.00	7,183.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
7,300.00	0.00	0.00	7,283.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
7,400.00	0.00	0.00	7,383.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
7,457.29	0.00	0.00	7,441.00	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
MESAVE									
7,500.00	0.00	0.00	7,483.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
7,600.00	0.00	0.00	7,583.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
7,700.00	0.00	0.00	7,683.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
7,800.00	0.00	0.00	7,783.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
7,900.00	0.00	0.00	7,883.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
8,000.00	0.00	0.00	7,983.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
8,100.00	0.00	0.00	8,083.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
8,200.00	0.00	0.00	8,183.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
8,300.00	0.00	0.00	8,283.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
8,400.00	0.00	0.00	8,383.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
8,500.00	0.00	0.00	8,483.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
8,600.00	0.00	0.00	8,583.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
8,700.00	0.00	0.00	8,683.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
8,800.00	0.00	0.00	8,783.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
8,900.00	0.00	0.00	8,883.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
9,000.00	0.00	0.00	8,983.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
9,100.00	0.00	0.00	9,083.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
9,200.00	0.00	0.00	9,183.71	-50.99 50.00	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
9,300.00	0.00	0.00	9,283.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
9,400.00	0.00	0.00	9,383.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
9,500.00	0.00	0.00	9,483.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
9,600.00	0.00	0.00	9,583.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
9,700.00	0.00	0.00	9,683.71	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8
9,712.29	0.00	0.00	9,696.00	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.8





Kerr McGee Oil and Gas Onshore LP Company:

Uintah County, UT UTM12 Project:

Site: NBU 921-35M PAD

NBU 921-35M4BS Well:

Wellbore: Design: PLAN #1 Local Co-ordinate Reference:

TVD Reference:

North Reference:

MD Reference:

@ 5103.00ft (ASSUMED) GL 5089' & KB 14'

GL 5089' & KB 14'

@ 5103.00ft (ASSUMED)

Well NBU 921-35M4BS

True

**Survey Calculation Method:** Minimum Curvature Database: EDM5000-RobertS-Local

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
NBU 921-35M4BS_PBH - plan hits target cent - Circle (radius 25.00		0.00	9,696.00	-50.99	287.73	14,524,490.89	2,053,682.91	39° 59' 10.835 N	109° 31' 28.844 W

Casing Po	ints					
	Measured	Vertical		Casing	Hole	
	Depth	Depth		Diameter	Diameter	
	(ft)	(ft)	Name	(in)	(in)	
	2,555.80	2,542.00 8 5/8"		8.625	11.000	

Formations							
	Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
	1,419.08	1,413.00	GREEN RIVER				
	4,708.29	4,692.00	WASATCH				
	7,457.29	7,441.00	MESAVERDE				

Plan Annotations							
M	Measured Vertical		Local Coordinates				
	Depth (ft)	Depth (ft)	+N/-S	+E/-W	Comment		
			(ft)	(ft)			
	300	300	0	0	Start Build 2.00		
	634	633	-3	19	Start 2178.47 hold at 633.91 MD		
	2812	2797	-48	269	Start Drop -2.00		
	3146	3130	-51	288	Start 6566.00 hold at 3146.29 MD		
	9712	9696	-51	288	TD at 9712.29		

Checked By:	Approved By:	Date:
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#### **NBU 921-35M1BS**

Surface: 469' FSL 526' FWL (SW/4SW/4) Lot 4 BHL: 1,096' FSL 830' FWL (SW/4SW/4) Lot 4

#### **NBU 921-35M1CS**

Surface: 474' FSL 534' FWL (SW/4SW/4) Lot 4 BHL: 760' FSL 830' FWL (SW/4SW/4) Lot 4

#### **NBU 921-35M4BS**

Surface: 478' FSL 543' FWL (SW/4SW/4) Lot 4 BHL: 423' FSL 831' FWL (SW/4SW/4) Lot 4

#### **NBU 921-35M4CS**

Surface: 464' FSL 517' FWL (SW/4SW/4) Lot 4 BHL: 55' FSL 834' FWL (SW/4SW/4) Lot 4

> Pad: NBU 921-35M Section 35 T9S R21E Mineral Lease: UO 1194 ST

Uintah County, Utah Operator: Kerr-McGee Oil & Gas Onshore LP

#### MULTI-POINT SURFACE USE PLAN of OPERATIONS (SUPO)

This SUPO contains surface operating procedures for Kerr-McGee Oil & Gas Onshore LP (KMG), a wholly owned subsidiary of Anadarko Petroleum Corporation (APC) pertaining to actions that involve the State of Utah School and Institutional Trust Lands Administration (SITLA) in the development of minerals leased to APC/KMG (including, but not limited to, APDs/SULAs/ROEs/ROWs and/or easements).

See associated Utah Division of Oil, Gas, and Mining (UDOGM) Form 3(s), plats, maps, and other attachments for site-specific information on projects represented herein.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

#### A. <u>Existing Roads</u>:

Existing roads consist of county roads and improved/unimproved lease roads. APC/KMG will maintain existing roads in a condition that is the same as or better than before operations began and in a safe and usable condition. Maintenance of existing roads will continue until final abandonment and reclamation of well pads and/or other facilities. The road maintenance may include, but is not limited to, blading, ditching, culvert installation/cleanout, surfacing, and dust control.

Typically, roads, gathering lines and electrical distribution lines will occupy common disturbance corridors and roadways will be used as working space. All disturbances located in the same corridor will overlap each

#### NBU 921-35M1BS / 35M1CS/ 35M4BS/ 35M4CS

other to the maximum extent possible; in no case will the maximum disturbance width of the access road and utility corridors exceed 50', unless otherwise approved.

#### **B.** Planned Access Roads:

No new access road is proposed (see Topo Map B). Applicable Uintah County encroachment and/or pipeline crossing permits will be obtained prior to construction/development. No other pipelines will be crossed at this location.

Where roads are new or to be reconstructed, they will be located, designed, and maintained to meet the standards of SITLA and other commonly accepted Best Management Practices (BMPs). If a new road/corridor were to cross a water of the United States, KMG will adhere to the requirements of applicable Nationwide or Individual Permits of the Department of Army Corps of Engineers.

Turnouts; major cut and fills; culverts; bridges; gates; cattle guards; low water crossings; or modifications needed to existing infrastructure/facilities were determined at the on-site and, as applicable, are typically shown on attached Exhibits and Topo maps.

#### C. <u>Location of Existing and Proposed Facilities</u>:

This pad will expand the existing pad for the NBU 69N2. This well location is a vertical producing well according to Utah Division of Oil, Gas and Mining (UDOGM) records as of November 11, 2010.

Production facilities (see Well Pad Design Summary and Facilities Diagram):

Production facilities will be installed on the disturbed portion of each well pad and may include bermed components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will be constructed of compacted subsoil or corrugated metal, impervious, designed to hold 110% of the capacity of the largest tank, and be independent of the back cut. All permanent (on-site six months or longer) aboveground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with SITLA.

Production tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks are not to be used for disposal of liquids from additional sources without prior approval of UDOGM. Gathering facilities:

The following pipeline transmission facilities will apply if the well is productive (see Topo D):

The total gas gathering (steel line pipe with fusion bond epoxy coating) pipeline distances from the meter to the tie in point is  $\pm 3,980$ ' and the individual segments are broken up as follows:

- $\pm 530$ ' (0.1 miles) –New 6" buried gas pipeline from the meter to the edge of the pad.
- $\pm 3,150$ ' (0.6 miles) –New 6" buried gas pipeline from the edge of pad to the NBU 921-35G pad intersection.
- $\pm 330$ ' (0.1 miles) –New 12" buried gas pipeline from the NBU 921-35G pad intersection to the NBU 921-35O pad intersection.

The total liquid gathering pipeline distance from the separator to the tie in point is  $\pm 4,600$ ' and the individual segments are broken up as follows:

 $\pm 530$ ' (0.1 miles) –New 6" buried liquid pipeline from the meter to the edge of the pad.  $\pm 3,150$ ' (0.6 miles) –New 6" buried liquid pipeline from the edge of pad to the NBU 921-35O pad intersection.

 $\pm 920$ ' (0.2 miles) –New 6" buried liquid pipeline from the NBU 921-35O pad intersection to the NBU 921-35G pad intersection.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

The proposed pipelines will be buried and will include gas gathering and liquid gathering pipelines in the same trench. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. Kerr-McGee requests a permanent 30' right-of-way adjacent to the road for life-of-project for maintenance, repairs, and/or upgrades, no additional right-of-way will be needed beyond the 30'. Where the pipeline is not adjacent to the road or well pad, Kerr-McGee requests a temporary 45' construction right-of-way and 30' permanent right-of-way.

The proposed trench width for the pipeline would range from 18-48 inches and will be excavated to a depth of 48 to 60 inches of normal soil cover or 24 inches of cover in consolidated rock. During construction blasting may occur along the proposed right-of-way where trenching equipment cannot cut into the bedrock. Large debris and rocks removed from the earth during trenching and blasting that could not be returned to the trench would be distributed evenly and naturally in the project area. The proposed pipelines will be pressure tested pneumatically (depending on size) or with fluids (either fresh or produced). If fluids are used, there will be no discharge to the surface.

Pipeline signs will be installed along the right-of-way to indicate the pipeline proximity, ownership, and to provide emergency contact phone numbers. Above ground valves, T's, and/or cathodic protection will be installed at various locations for connection, corrosion prevention and/or for safety purposes.

#### D. Location and Type of Water Supply:

Water for drilling purposes will be obtained from one of the following sources:

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.
- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

#### **E.** Source of Construction Materials:

Construction operations will typically be completed with native materials found on location. If needed, construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source and described in subsequent Sundry requests. No construction materials will be removed from State lands without prior approval from SITLA.

## F. <u>Methods of Handling Waste Materials</u>:

Should the well be productive, produced water will be contained in a water tank and will be transported by pipeline and/or truck to an approved disposal sites facilities and/or Salt Water Disposal (SWD) injection well. Currently, those facilities are:

RNI in Sec. 5 T9S R22E

Ace Oilfield in Sec. 2 T6S R20E MC&MC in Sec. 12 T6S R19E

Pipeline Facility in Sec. 36 T9S R20E

Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E

Bonanza Evaporation Pond in Sec. 2 T10S R23E

Ouray #1 SWD in Sec. 1 T9S R21E NBU 159 SWD in Sec. 35 T9S R21E

CIGE 112D SWD in Sec. 19 T9S R21E CIGE 114 SWD in Sec. 34 T9S R21E NBU 921-34K SWD in Sec. 34 T9S R21E NBU 921-33F SWD in Sec. 33 T9S R21E

NBU 921-34L SWD in Sec. 34 T9S R21E

Drill cuttings and/or fluids will be contained in the reserve/frac pit. Cuttings will be buried in pit(s) upon closure. Unless otherwise approved, no oil or other oil-based drilling additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

Pits will be constructed to minimize the accumulation of surface runoff. Should fluid hydrocarbons be encountered during drilling, completions or well testing, product will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be released into a pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternate is approved by SITLA. Should timely removal prove infeasible, the pit will be netted with mesh no larger than 1 inch until such time as hydrocarbons can be removed. Hydrocarbon removal will also take place prior to the closure of the pit, unless authorization is provided for disposal via alternative pit closure methods (e.g. solidification).

The reserve and/or fracture stimulation pit will be lined with a synthetic material 20-mil or thicker, The liner

will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. Any additional pits necessary to subsequent operations, such as temporary flare or workover pits, will be contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of work at a well location.

For the protection of livestock and wildlife, all open pits and cellars will be fenced/covered to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after six (6) months from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Additional drying methods may include fly-ash solidification or sprinkler evaporation. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift. Reserve pit liners will be cut off or folded as near to the mud surface as possible and as safety considerations allow and buried on location.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility.

Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

Any undesirable event, accidental release, or in excess of reportable quantities will be managed according to the notification requirements of UDOGMs "Reporting Oil and Gas Undesirable Events" rule, and, where State wells are participatory to a Federal agreement, according to NTL-3A.

#### **Materials Management**

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term "hazardous materials" as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities and may be kept in limited quantities on drilling sites and well locations for short periods of time during drilling or completion activities.

### **G.** Ancillary Facilities:

None are anticipated.

### H. Well Site Layout (see Well Pad Design Summary):

The location, orientation and aerial extent of each drill pad; reserve/completion/flare pit; access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure; proposed cuts and fills; and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment and facility layout; however, the area of disturbance, as described in the survey, will not be exceeded.

Coordinates are provided in the National Spatial Reference System, North American Datum, 1983 (NAD83) or latest edition. Distances are depicted on each plat to the nearest two adjacent section lines.

# I. Plans for Reclamation of the Surface:

Surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. This reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but are not limited to: re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

#### **Interim Reclamation**

Interim reclamation includes pit closure, re-contouring (where possible), soil bed preparation, topsoil placement, seeding, and/or weed control.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where possible, the land surface will be left "rough" after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit.

#### **Final Reclamation**

Final reclamation will be performed for newly drilled unproductive wells and/or at the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by APC/KMG. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring, final grading will be conducted over the entire surface of the well site and access road. Where practical, the area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers and surface materials will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep perpendicular to the natural flow of water.

All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded.

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to UDOGM.

#### Seeding and Measures Common to Interim and Final Reclamation

Reclaimed areas may be fenced to exclude grazing and encourage re-vegetation.

On slopes where severe erosion can become a problem and the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. The slope will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to, erosion control blankets and bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

Seeding will occur year-round as conditions allow. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-

vegetation. The site specific seed mix will be provided by SITLA.

# J. <u>Surface/Mineral Ownership</u>:

SITLA 675 East 500 South, Suite 500 Salt Lake City, UT 84102

# **K.** Other Information:

None

#### M. Lessee's or Operators' Representative & Certification:

Danielle Piernot Regulatory Analyst I Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6156 Tommy Thompson General Manager, Drilling Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage for State lease activities is provided by State Surety Bond 22013542, and for applicable Federal lease activities and pursuant to 43 CFR 3104, by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Danielle Piernot

November 19, 2010

Date



Kerr-McGee Oil & Gas Onshore LP PO Box 173779 DENVER, CO 80217-3779

October 27, 2010

Ms. Diana Mason Division of Oil, Gas and Mining P.O. Box 145801 Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11

NBU 921-35M4BS

T9S-R21E

Section 35: SWSW (Surf), SWSW (Bottom)

Surface: 478' FSL, 543' FWL Bottom Hole: 423' FSL, 831' FWL

Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling.

- Kerr-McGee's NBU 921-35M4BS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information, Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

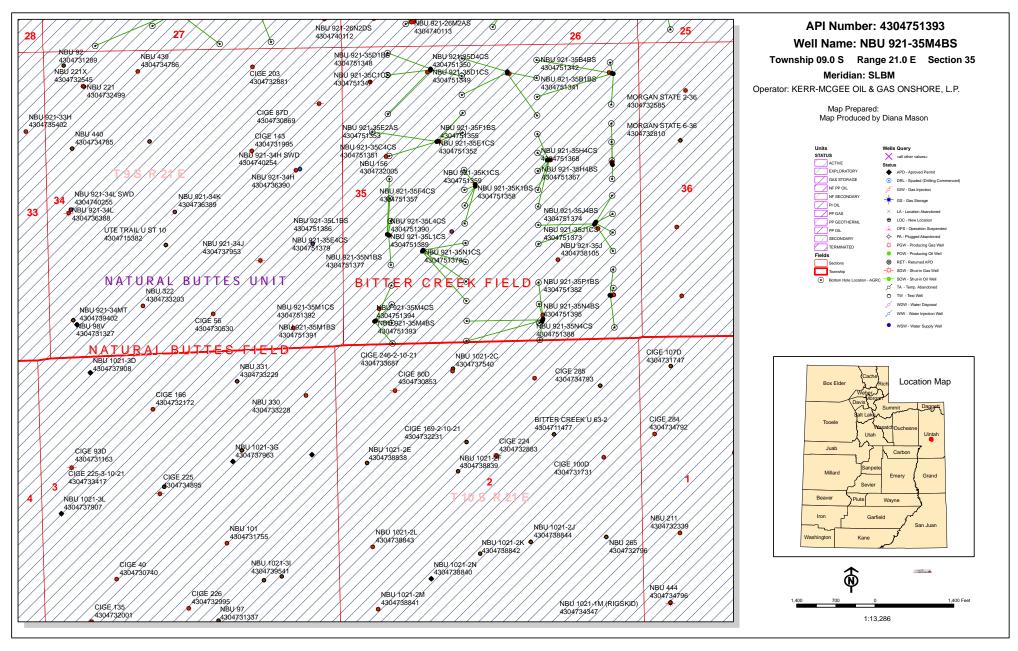
Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

Joe Matney

Sr. Staff Landman

Joe Matines



# **United States Department of the Interior**

#### BUREAU OF LAND MANAGEMENT

Utah State Office
P.O. Box 45155
Salt Lake City, Utah 84145-0155

IN REPLY REFER TO: 3160 (UT-922)

December 1, 2010

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2010 Plan of Development Natural Buttes Unit

Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2010 within the Natural Buttes Unit, Uintah County, Utah.

API # WELL NAME LOCATION

(Proposed PZ WASATCH-MESA VERDE)

#### NBU 921-35F2 Pad

43-047-51355 NBU 921-35F1BS Sec 35 T09S R21E 1684 FNL 1709 FWL BHL Sec 35 T09S R21E 1531 FNL 2146 FWL

#### NBU 921-35F4 PAD

43-047-51356 NBU 921-35F4BS Sec 35 T09S R21E 2473 FNL 2358 FWL BHL Sec 35 T09S R21E 2210 FNL 2158 FWL

43-047-51357 NBU 921-35F4CS Sec 35 T09S R21E 2483 FNL 2358 FWL

BHL Sec 35 T09S R21E 2567 FNL 2159 FWL

43-047-51358 NBU 921-35K1BS Sec 35 T09S R21E 2493 FNL 2358 FWL BHL Sec 35 T09S R21E 2484 FSL 2161 FWL

43-047-51359 NBU 921-35K1CS Sec 35 T09S R21E 2503 FNL 2357 FWL BHL Sec 35 T09S R21E 2163 FSL 2155 FWL

#### NBU 921-35G Pad

43-047-51360 NBU 921-35G1BS Sec 35 T09S R21E 2053 FNL 1633 FEL

BHL Sec 35 T09S R21E 1583 FNL 1819 FEL

43-047-51361 NBU 921-35G1CS Sec 35 T09S R21E 2053 FNL 1653 FEL

BHL Sec 35 T09S R21E 1916 FNL 1820 FEL

43-047-51362 NBU 921-35G4BS Sec 35 T09S R21E 2053 FNL 1643 FEL

BHL Sec 35 T09S R21E 2250 FNL 1822 FEL

API # WELL NAME LOCATION (Proposed PZ WASATCH-MESA VERDE) BHL Sec 35 T09S R21E 2583 FNL 1823 FEL 43-047-51364 NBU 921-35J1BS Sec 35 T09S R21E 2053 FNL 1613 FEL BHL Sec 35 T09S R21E 2419 FSL 1824 FEL **NBU 921-35H PAD** 43-047-51365 NBU 921-35H1BS Sec 35 T09S R21E 2143 FNL 0486 FEL BHL Sec 35 T09S R21E 1411 FNL 0494 FEL BHL Sec 35 T09S R21E 1743 FNL 0495 FEL 43-047-51367 NBU 921-35H4BS Sec 35 T09S R21E 2124 FNL 0493 FEL BHL Sec 35 T09S R21E 2075 FNL 0495 FEL BHL Sec 35 T09S R21E 2407 FNL 0495 FEL **NBU 921-35I PAD** BHL Sec 35 T09S R21E 2572 FSL 0496 FEL BHL Sec 35 T09S R21E 2240 FSL 0496 FEL 43-047-51371 NBU 921-3514BS Sec 35 T09S R21E 2090 FSL 0806 FEL BHL Sec 35 T09S R21E 1908 FSL 0496 FEL BHL Sec 35 T09S R21E 1577 FSL 0497 FEL BHL Sec 35 T09S R21E 2086 FSL 1825 FEL 43-047-51374 NBU 921-35J4BS Sec 35 T09S R21E 2066 FSL 0823 FEL BHL Sec 35 T09S R21E 1752 FSL 1826 FEL **NBU 921-35K PAD** 43-047-51375 NBU 921-35K4BS Sec 35 T09S R21E 1710 FSL 1409 FWL BHL Sec 35 T09S R21E 1814 FSL 2165 FWL 43-047-51376 NBU 921-35K4CS Sec 35 T09S R21E 1702 FSL 1403 FWL BHL Sec 35 T09S R21E 1469 FSL 2163 FWL 43-047-51377 NBU 921-35N1BS Sec 35 T09S R21E 1694 FSL 1397 FWL BHL Sec 35 T09S R21E 1124 FSL 2161 FWL BHL Sec 35 T09S R21E 0771 FSL 2162 FWL

API #	WE:	LL NAME		LO	CATIO:	N		
NBU 921-35L PAG	)							
43-047-51379	NBU	921-35E4CS BHL						
43-047-51386	NBU	921-35L1BS BHL						
43-047-51389	NBU	921-35L1CS BHL						
43-047-51390	NBU	921-35L4CS BHL						
NBU 921-35P PAI	)							
43-047-51380	NBU	921-35P4CS BHL						
43-047-51381	NBU	921-35P1CS BHL						
43-047-51382	NBU	921-35P1BS BHL						
NBU 921-350 PAI	ס							
43-047-51383	NBU	921-3504CS BHL						
43-047-51384	NBU	921-3504BS BHL						
43-047-51385	NBU	921-3501CS BHL						
43-047-51387	NBU	921-3501BS BHL			R21E R21E			
43-047-51388	NBU	921-35N4CS BHL			R21E R21E			
43-047-51395	NBU	921-35N4BS BHL			R21E R21E			
NBU 921-35M PA	D							
43-047-51391	NBU	921-35M1BS BHL			R21E R21E			
43-047-51392	NBU	921-35M1CS BHL			R21E R21E			

Page 4

API # WELL NAME LOCATION

43-047-51393 NBU 921-35M4BS Sec 35 T09S R21E 0478 FSL 0543 FWL BHL Sec 35 T09S R21E 0423 FSL 0831 FWL 43-047-51394 NBU 921-35M4CS Sec 35 T09S R21E 0464 FSL 0517 FWL BHL Sec 35 T09S R21E 0055 FSL 0834 FWL

This office has no objection to permitting the wells at this time.



bcc: File - Natural Buttes Unit
Division of Oil Gas and Mining
Central Files
Agr. Sec. Chron
Fluid Chron

MCoulthard:mc:12-1-10

From: Jim Davis

To: Bonner, Ed; Hill, Brad; Mason, Diana

CC: Curry, Kristine; Danielle Piernot; Garrison, LaVonne; Hayden, Martha;...

**Date:** 12/22/2010 5:49 AM

**Subject:** Kerr McGee APD approvals in 9S 21E Sec 35 **Attachments:** KMG approvals 921-35 on 12.22.2010.xls

The following wells have been approved by SITLA under the following arch and paleo stipulations. This is a long list, so I'm attaching a spreadsheet with the same information.

A note on arch and paleo stipulations: Wells that have an arch note "non-significant site" do not need to be avoided or mitigated. Only those that say "needs to be avoided".

The paleo reports make recommendations for "spot paleo monitoring" or "full paleo monitoring". It is my understanding that Kerr McGee is taking these stipulations and doing full monitoring in either case, in an abundance of caution.

-Jim Davis

Well Name API Paleo Stipulation	ons Arch Stipulation	ns
Kerr-McGee's NBU 921-35A1BS	API #4304751339	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		,
Kerr-McGee's NBU 921-35A4CS	API #4304751340	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35B1BS	API #4304751341	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35B4BS	API #4304751342	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35B1CS	API #4304751343	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s; eligible site 42Ur	n6461, just south of prope	
Kerr-McGee's NBU 921-35B4CS	API #4304751344	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s; eligible site 42Ur		
Kerr-McGee's NBU 921-35C1BS	API #4304751345	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s; eligible site 42Ur	n6461, just south of prope	
Kerr-McGee's NBU 921-35C4BS	API #4304751346	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s; eligible site 42Ur	n6461, just south of prope	
Kerr-McGee's NBU 921-35C1CS	API #4304751347	IPC 10-97 Full Paleo Monitoring (U-07-
MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35D1BS	API #4304751348	IPC 10-97 Full Paleo Monitoring (U-07-
MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35D1CS	API #4304751349	IPC 10-97 Full Paleo Monitoring (U-07-
MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35D4CS	API #4304751350	IPC 10-97 Full Paleo Monitoring (U-07-
MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35C4CS	API #4304751351	IPC 10-97 Full Paleo Monitoring (U-07-
MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35E1CS	API #4304751352	IPC 10-97 Full Paleo Monitoring (U-07-
MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35E2AS	API #4304751353	IPC 10-97 Full Paleo Monitoring (U-07-
MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35F1BS	API #4304751355	IPC 10-97 Full Paleo Monitoring (U-07-
MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35F4BS	API #4304751356	IPC 10-97 Full Paleo Monitoring (U-07-
MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35F4CS	API #4304751357	IPC 10-97 Full Paleo Monitoring (U-07-
MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35K1BS	API #4304751358	IPC 10-97 Full Paleo Monitoring (U-07-

110 (10=1)		
MQ-1437b,i,p,s)	. =	
Kerr-McGee's NBU 921-35K1CS	API #4304751359	IPC 10-97 Full Paleo Monitoring (U-07-
MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35G1BS	API #4304751360	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s; 1 non-significant	site, 42Un2395, adjacer	
Kerr-McGee's NBU 921-35G1CS	API #4304751361	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s; 1 non-significant	site, 42Un2395, adjacer	nt to the road)
Kerr-McGee's NBU 921-35G4BS	API #4304751362	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s; 1 non-significant		
	API #4304751363	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s; 1 non-significant		,
Kerr-McGee's NBU 921-35J1S API #43		0-98 Spot Paleo Monitoring (U-07-
MQ-1437b,i,p,s; 1 non-significant site, 4		
Kerr-McGee's NBU 921-35H1BS	API #4304751365	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)	AFT#4304751305	IFC 10-96 Spot Faled Monitoring
	ADI #42047E4266	IDC 10.00 Cnot Doloo Manitoring
Kerr-McGee's NBU 921-35H1CS	API #4304751366	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)	A DI #400 4754007	IDO 40 00 Oct Delec Machini
Kerr-McGee's NBU 921-35H4BS	API #4304751367	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35H4CS	API #4304751368	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35I1BS API #43	304751369 IPC 10	0-100 Full Paleo Monitoring (U-07-
MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35I1CS	API #4304751370	IPC 10-100 Full Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35I4BS API #43	304751371 IPC 10	0-100 Full Paleo Monitoring (U-07-
MQ-1437b,i,p,s)		•
Kerr-McGee's NBU 921-35I4CS	API #4304751372	IPC 10-100 Full Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		3
Kerr-McGee's NBU 921-35J1CS	API #4304751373	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		ii e ie ee eperi alee meillemig
Kerr-McGee's NBU 921-35J4BS	API #4304751374	IPC 10-100 Full Paleo Monitoring
(U-07-MQ-1437b,i,p,s)	A 1 # 4304/3/3/4	ii o to toot dii t alco Monitoring
Kerr-McGee's NBU 921-35K4BS	API #4304751375	IPC 10-99 Spot Paleo Monitoring
	AFT#4304751375	IFC 10-99 Spot Faled Monitoring
(U-07-MQ-1437b,i,p,s) Kerr-McGee's NBU 921-35K4CS	API #4304751376	IPC 10-99 Spot Paleo Monitoring
	API #4304751376	IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)	A DI #400 4754077	IDC 40 00 Coat Dalas Manitaria
Kerr-McGee's NBU 921-35N1BS	API #4304751377	IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)	A DI #400 475 4070	IDO 40 00 0 4 D 1 14 15 1
Kerr-McGee's NBU 921-35N1CS	API #4304751378	IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35E4CS	API #4304751379	IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35P4CS	API #4304751380	IPC 10-100 Full Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35P1CS	API #4304751381	IPC 10-100 Full Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35P1BS	API #4304751382	IPC 10-100 Full Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		Ç
Kerr-McGee's NBU 921-35O4CS	API #4304751383	IPC 10-100 Full Paleo Monitoring
(U-07-MQ-1437b,i,p,s; 1 non-significant		
Kerr-McGee's NBU 921-35O4BS	API #4304751384	IPC 10-100 Full Paleo Monitoring
(U-07-MQ-1437b,i,p,s; 1 non-significant		
Kerr-McGee's NBU 921-3501CS	API #4304751385	IPC 10-100 Full Paleo Monitoring
(U-07-MQ-1437b,i,p,s; 1 non-significant		
Kerr-McGee's NBU 921-35L1BS	API #4304751386	IPC 10-99 Spot Paleo Monitoring
1.5.7 MOSSOS 11DO 021 00E1DO	, i 100 TI 0 1000	2 10 00 opor i alco monitoring

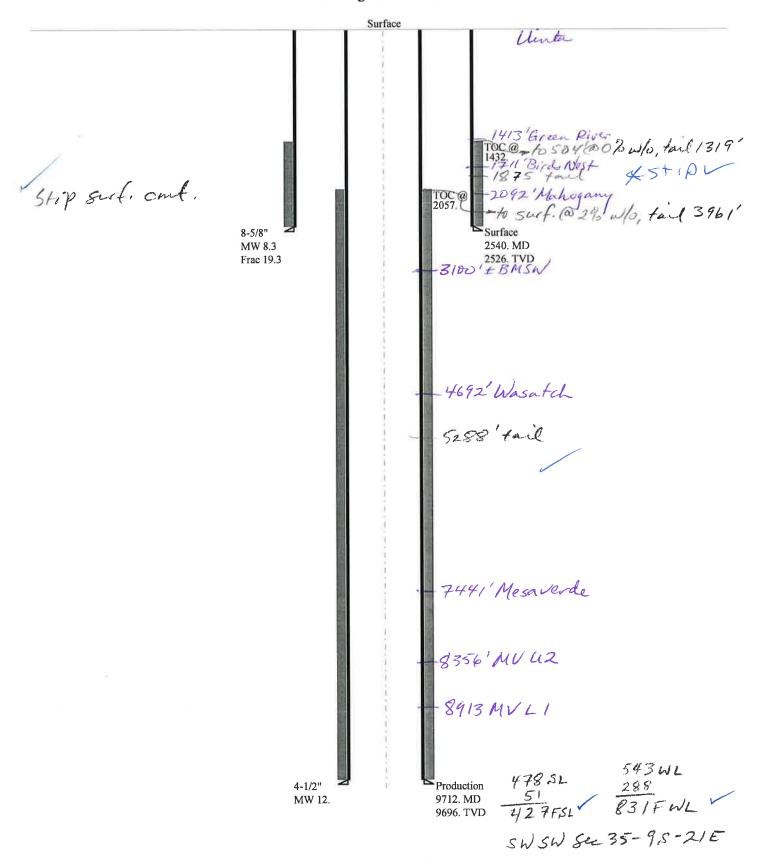
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35O1BS	API #4304751387	IPC 10-100 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s; 1 non-significant	site, 42Un1836, adjacer	nt to pipeline)
Kerr-McGee's NBU 921-35N4CS	API #4304751388	IPC 10-100 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s; 1 non-significant	site, 42Un1836, adjacer	nt to pipeline)
Kerr-McGee's NBU 921-35L1CS	API #4304751389	IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35L4CS	API #4304751390	IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35M1BS	API #4304751391	IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35M1CS	API #4304751392	IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35M4BS	API #4304751393	IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35M4CS	API #4304751394	IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35N4BS	API #4304751395	IPC 10-100 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s; 1 non-significant	site, 42Un1836, adjacer	nt to pipeline)

# BOPE REVIEW KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 921-35M4BS 43047513930000

Well Name		KERR-MCGEE OIL & GAS ONSHORE, L.P.			E, L.P. NBU 921	I-35M4	14BS 430475139	
String		Surf	Pro	od	ī		ī II.	
Casing Size(")		8.625	4.5	500	ī		1 [	
Setting Depth (TVD)		2526	969	96	T		1	
Previous Shoe Setting Dept	th (TVD)	40	252	26	i		1 [	
Max Mud Weight (ppg)		8.3	12.	.0	H		1	
BOPE Proposed (psi)		500	500	00	Ħ		1 1	
Casing Internal Yield (psi)		3390	778	80	1	<u>,                                      </u>	1	
Operators Max Anticipate	d Pressure (psi)	5915	11.		1		7	<del>'</del>
			L!—		_		- [5-	<u></u>
Calculations	Sur	rf String					.625	5 "
Max BHP (psi)		.052*Sett	ing l	Depth*N	ΛV	V= 1094		
								BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)		x BHP-(0.12 <sup>3</sup>			_			NO air drill
MASP (Gas/Mud) (psi)	Ma	ax BHP-(0.22*	*Set	tting Dep	oth	538		NO
			_		_			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe		Depth - Previo	us S	Shoe Dep	oth	)= <u>547</u>		NO Reasonable depth in area
Required Casing/BOPE Te						2373		psi
*Max Pressure Allowed @	Previous Casing Shoe=					40		psi *Assumes 1psi/ft frac gradient
Calculations	Pro	od String			_	4	.500	0 "
Max BHP (psi)	110	.052*Setti	ing 1	Depth*N	ΛV	_		1
(Poz)		.002 500		z cpui i	-	1 0030		BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Ma	x BHP-(0.12*	*Set	tting Der	oth	)= 4886		YES
MASP (Gas/Mud) (psi)		ax BHP-(0.22*			_	1	=	YES OK
(Sustinus) (psz)	1110			8 2 01		3917		*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP22*(Setting I	Depth - Previo	us S	Shoe Dei	oth	)= <sub>4473</sub>	_	NO Reasonable
Required Casing/BOPE Te	L	·F · · · ·				5000	=	psi
*Max Pressure Allowed @					_	2526	=	psi *Assumes 1psi/ft frac gradient
	Trevious cusing shoe					2320		por Tissumes Ipon to Hate State III
Calculations		String						"
Max BHP (psi)		.052*Sett	ing l	Depth*N	ΛV	V=		
								BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Ma	x BHP-(0.12	*Set	tting Dep	oth	i)=		NO
MASP (Gas/Mud) (psi)	Ma	x BHP-(0.22	*Set	tting Dep	oth	)=		NO
								*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP22*(Setting I	Depth - Previo	us S	Shoe Dep	oth	1)=		NO I
Required Casing/BOPE To	est Pressure=							psi
*Max Pressure Allowed @	Previous Casing Shoe=							psi *Assumes 1psi/ft frac gradient
Calculations		String	_		_		_	l tt
Max BHP (psi)	,	.052*Setti	ing l	Denth*N	4W	V=	_	1
(psi)		.032 500	1115	Бериг		<u> </u>		BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Мя	ax BHP-(0.12*	*Set	tting Der	oth	)=		NO NO
MASP (Gas/Mud) (psi)		ax BHP-(0.22*				1 1	=	I NO I
(Sustified) (psi)	IVIE	2.11 (0.22		5 [50]		<u> </u>	_	*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP22*(Setting I	Depth - Previo	us S	Shoe Dei	oth	i)=	_	NO NO
Required Casing/BOPE Te	` •				_	-		psi
*Max Pressure Allowed @					_	╬═		psi *Assumes 1psi/ft frac gradient
	Ð · · · ·					11		

# 43047513930000 NBU 921-35M4BS

**Casing Schematic** 



Well name:

43047513930000 NBU 921-35M4BS

Operator:

KERR-MCGEE OIL & GAS ONSHORE, L.P.

Collapse

Design

**Factor** 

1.720

Burst

Load

(psi)

2538

Project ID:

String type:

Surface

43-047-51393

Location:

**UINTAH** COUNTY

Collaps Mud	n parameters se weight: gn is based or		8.330 ppg ated pipe.	Collapse: Design factor	<b>design fac</b> or	etors: 1.125	Environme H2S conside Surface tem Bottom hole Temperature Minimum se	ered? perature: temperature: gradient:	No 74 °F 109 °F 1.40 °F/100ft 100 ft
Durat				<u>Burst:</u> Design fact	or	1.00	Cement top:		1,432 ft
p Inter Calc	anticipated suressure: nal gradient: ulated BHP nackup mud sp		2,235 psi 0.120 psi/ft 2,538 psi	Tension: 8 Round ST 8 Round LT Buttress: Premium: Body yield: Tension is t Neutral poir	C: pased on air	2,228 ft	Kick-off po Departure Maximum of Inclination Re subseque Next settin Next mud of Next settin Fracture of Injection po	at shoe: dogleg: at shoe: uent strings: g depth: weight: g BHP: uud wt: epth: ressure:	300 ft 241 ft 2 °/100ft 6.68 ° 9,696 ft 12.000 ppg 6,044 psi 19.250 ppg 2,540 ft 2,540 psi
Run Seq	Segment Length	Size	Nominal Weight	Grade	End Finish	True Vert Depth	Measured Depth	Drift Diameter	Est. Cost
	(ft)	(in)	(lbs/ft)	1.55	1.700	(ft)	(ft)	(in)	(\$) 100594
1	2540	8.625	28.00	I-55	LT&C	2526	2540	7.892	100584

Burst

Strength

(psi)

3390

Burst

Design

**Factor** 

1.34

Tension

Load

(kips)

70.7

Prepared	Helen Sadik-Macdonald
by:	Div of Oil,Gas & Mining

Collapse Collapse

Strength

(psi)

1880

Load

(psi)

1093

Phone: 801 538-5357 FAX: 801-359-3940

Date: December 28,2010 Salt Lake City, Utah

**Tension** 

Strength

(kips)

348

Tension

Design

**Factor** 

4.92 J

Remarks:

Run

Seq

1

Collapse is based on a vertical depth of 2526 ft, a mud weight of 8.33 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Well name:

43047513930000 NBU 921-35M4BS

Operator:

KERR-MCGEE OIL & GAS ONSHORE, L.P.

String type:

Production

Project ID:

43-047-51393

Location:

**UINTAH** 

COUNTY

Collapse

Mud weight: Internal fluid density:

Design parameters:

12.000 ppg 1.000 ppg Minimum design factors: Collapse:

Design factor 1.125 **Environment:** H2S considered?

Surface temperature: Bottom hole temperature:

No 74 °F 210 °F

Temperature gradient: Minimum section length: 1.40 °F/100ft 100 ft

**Burst:** 

Design factor

1.00

1.80 (J)

1.80 (J)

Cement top:

2,057 ft

**Burst** 

Max anticipated surface pressure:

Internal gradient: Calculated BHP

3,911 psi 0.220 psi/ft

6,044 psi

No backup mud specified.

**Tension:** 8 Round STC:

8 Round LTC: Buttress:

Premium:

Body yield:

1.60 (J) 1.50 (J) 1.60 (B)

Tension is based on air weight. Neutral point: 7,973 ft Directional Info - Build & Drop

Kick-off point Departure at shoe: 300 ft 292 ft 2 °/100ft

Maximum dogleg: Inclination at shoe:

0°

Run Seq	Segment Length (ft) 9712	Size (in) 4.5	Nominal Weight (Ibs/ft) 11.60	Grade I-80	End Finish LT&C	True Vert Depth (ft) 9696	Measured Depth (ft) 9712	Drift Diameter (in) 3.875	Est. Cost (\$) 128198
Run Seq	Collapse Load (psi) 5540	Collapse Strength (psi) 6360	Collapse Design Factor 1.148	Burst Load (psi) 6044	Burst Strength (psi) 7780	Burst Design Factor 1.29	Tension Load (kips) 112.5	Tension Strength (kips) 212	Tension Design Factor 1.88 J

Prepared

Helen Sadik-Macdonald Div of Oil, Gas & Mining

Phone: 801 538-5357 FAX: 801-359-3940

Date: December 28,2010 Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 9696 ft, a mud weight of 12 ppg. An internal gradient of .052 psi/ft was used for collapse from TD to Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

# **ON-SITE PREDRILL EVALUATION**

# Utah Division of Oil, Gas and Mining

**Operator** KERR-MCGEE OIL & GAS ONSHORE, L.P.

Well Name NBU 921-35M4BS

API Number 43047513930000 APD No 3218 Field/Unit NATURAL BUTTES

**Location: 1/4,1/4** SWSW **Sec** 35 **Tw** 9.0S **Rng** 21.0E 478 FSL 543 FWL

GPS Coord (UTM) Surface Owner

#### **Participants**

See other comments:

## Regional/Local Setting & Topography

The general area is within the Natural Buttes Unit in the lower portion of the Sand Wash Drainage of Uintah, County, approximately 37 air miles and 44.2 road miles south of Vernal, Utah. Access is by State of Utah Highways, Uintah County and existing oilfield development roads to the site. Topography of the Sand Wash area is characterized by broad open flats dissected by numerous sub-drainages, which often become steep with ridges and draws with exposed sandstone layers. No perennial streams occur in the drainage. Individual draws or washes are ephemeral with spring runoff or flows from sometimes-intense summer rainstorms. No springs exist in the area. An occasional constructed pond occurs, furnishing water for antelope or livestock.

The NBU 921-35M pad will be created by significantly enlarging the existing pad of the NBU 69N2 gas well. It will be enlarged in all directions except to the east. Four gas wells, to be directionally drilled, will be added. They are the NBU 921-35M4CS, NBU 921-35M1BS, NBU 921-35M1CS and NBU 921-35M4BS. The site is in moderately hilly terrain. A rock ridge exists to the north. A diversion ditch for the existing pad has been cut at the south toe of this ridge and must be maintained. This limits the north extension of the pad. The pad extends to the south into a hill which will be excavated for the reserve pit. A major tributary of Sand Wash is about 1 mile to the east of the site and the White River about 3 mile down drainage. The selected site appears to be suitable for enlarging a pad, drilling and operating the proposed wells and is the only site in the immediate area.

Both the surface and minerals are owned by SITLA.

#### **Surface Use Plan**

**Current Surface Use** 

Grazing Wildlfe Habitat Existing Well Pad

New Road Miles Well Pad Src Const Material Surface Formation

0 Width 352 Length 455 Onsite UNTA

**Ancillary Facilities** N

### Waste Management Plan Adequate?

#### **Environmental Parameters**

Affected Floodplains and/or Wetlands N

Flora / Fauna

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Vegetation is a poor desert shrub type, which includes rabbit brush, Indian ricegrass, stipa commata, greasewood, broom snakeweed, shadscale and halogeton.

Antelope, sheep during the winter, rabbits, coyotes, and small mammals, birds and raptors.

#### **Soil Type and Characteristics**

Surface soils are a shallow rocky sandy loam.

**Erosion Issues** N

**Sedimentation Issues** N

Site Stability Issues N

**Drainage Diverson Required?** N

Berm Required? N

**Erosion Sedimentation Control Required?** N

Paleo Survey Run? Y Paleo Potental Observed? N Cultural Survey Run? Y Cultural Resources?

#### **Reserve Pit**

Site-Specific Factors	Site R	anking	
Distance to Groundwater (feet)	100 to 200	5	
Distance to Surface Water (feet)	>1000	0	
Dist. Nearest Municipal Well (ft)	>5280	0	
Distance to Other Wells (feet)		20	
Native Soil Type	Mod permeability	10	
Fluid Type	Fresh Water	5	
Drill Cuttings	Normal Rock	0	
<b>Annual Precipitation (inches)</b>		0	
Affected Populations			
<b>Presence Nearby Utility Conduits</b>	Not Present	0	
	<b>Final Score</b>	40	1 Sensitivity Level

#### **Characteristics / Requirements**

The proposed reserve pit is 120' x 260' x 12' deep located in a cut on the southeast corner of the location. Kerr McGee plans a 30-mil liner with a double felt sub-liner.

Closed Loop Mud Required? N Liner Required? Y Liner Thickness 30 Pit Underlayment Required? Y

### **Other Observations / Comments**

Floyd Bartlett (DOGM), Sheila Wopsock, Clay Einerson, Lovell Young, Grizz Oleen, Charles Chase, Colby Sutton, Doyle Holmes, Claudia Sass, (Kerr McGee), Mitch Batty, John Slaugh, (Timberline Engineering and Land Surveying), Jim Davis (SITLA) and Ben Williams, (UDWR).

Floyd Bartlett 11/30/2010

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**Evaluator** Date / Time

12/30/2010 Page 3

# **Application for Permit to Drill Statement of Basis**

12/30/2010 Utah Division of Oil, Gas and Mining

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APD No	API WellNo	Status	Well Type	<b>Surf Owner</b>	<b>CBM</b>
3218	43047513930000	SITLA	GW	S	No
Operator	KERR-MCGEE OIL & GAS ON	SHORE, L.P.	<b>Surface Owner-APD</b>		
Well Name	NBU 921-35M4BS		Unit	NATURAL B	UTTES
Field	NATURAL BUTTES		Type of Work	DRILL	
Location	SWSW 35 9S 21E S 478	8 FSL 543 FWI	L GPS Coord (UTM)	625876E 4427	7075N

#### **Geologic Statement of Basis**

Kerr McGee proposes to set 2,540' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 3,100'. A search of Division of Water Rights records shows one water well within a 10,000 foot radius of the center of Section 35. The well is listed as 2,640 feet deep and used for drilling water. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. Production casing cement should be brought up to cover the base of the moderately saline ground water in order to isolate fresher waters uphole.

Brad Hill 12/15/2010 **APD Evaluator Date / Time** 

#### **Surface Statement of Basis**

The general area is within the Natural Buttes Unit in the lower portion of the Sand Wash Drainage of Uintah, County, approximately 37 air miles and 44.2 road miles south of Vernal, Utah. Access is by State of Utah Highways, Uintah County and existing oilfield development roads to the site. Topography of the Sand Wash area is characterized by broad open flats dissected by numerous sub-drainages, which often become steep with ridges and draws with exposed sandstone layers. No perennial streams occur in the drainage. Individual draws or washes are ephemeral with spring runoff or flows from sometimes-intense summer rainstorms. No springs exist in the area. An occasional constructed pond occurs, furnishing water for antelope or livestock.

The NBU 921-35M pad will be created by significantly enlarging the existing pad of the NBU 69N2 gas well. It will be enlarged in all directions except to the east. Four gas wells, to be directionally drilled, will be added. They are the NBU 921-35M4CS, NBU 921-35M1BS, NBU 921-35M1CS and NBU 921-35M4BS. The site is in moderately hilly terrain. A rock ridge exists to the north. A diversion ditch for the existing pad has been cut at the south toe of this ridge and must be maintained. This limits the north extension of the pad. The pad extends to the south into a hill which will be excavated for the reserve pit. A major tributary of Sand Wash is about 1 mile to the east of the site and the White River about 3 mile down drainage. The selected site appears to be suitable for enlarging a pad, drilling and operating the proposed wells and is the only site in the immediate area.

Both the surface and minerals are owned by SITLA. Jim Davis represented SITLA at the pre-site investigation. Mr. Davis had no concerns pertaining to this location excepted as covered above. SITLA provided a seed mix to be used when reclaiming the site.

Ben Williams represented the Utah Division of Wildlife Resources. Mr. Williams stated the area is classified as crucial yearlong antelope habitat but recommended no restrictions for this species. No other wildlife will be significantly affected.

Floyd Bartlett 11/30/2010
Onsite Evaluator Date / Time

12/30/2010

# **Application for Permit to Drill Statement of Basis**

**Utah Division of Oil, Gas and Mining** 

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### **Conditions of Approval / Application for Permit to Drill**

**Category** Condition

Pits A synthetic liner with a minimum thickness of 30 mils with a double felt subliner shall be properly installed and

maintained in the reserve pit.

Surface The reserve pit shall be fenced upon completion of drilling operations.

Surface Drainages adjacent to the proposed pad shall be diverted around the location.

# WORKSHEET APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 11/23/2010 **API NO. ASSIGNED:** 43047513930000

WELL NAME: NBU 921-35M4BS

**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995) **PHONE NUMBER:** 720 929-6156

**CONTACT:** Danielle Piernot

PROPOSED LOCATION: SWSW 35 090S 210E **Permit Tech Review:** 

> SURFACE: 0478 FSL 0543 FWL **Engineering Review:**

> **BOTTOM: 0423 FSL 0831 FWL** Geology Review:

**COUNTY: UINTAH** 

**LATITUDE: 39.98637 LONGITUDE:** -109.52570

**UTM SURF EASTINGS: 625876.00** NORTHINGS: 4427075.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 3 - State

LEASE NUMBER: UO 01194 ST PROPOSED PRODUCING FORMATION(S): WASATCH-MESA VERDE

**SURFACE OWNER: 3 - State COALBED METHANE: NO** 

#### **RECEIVED AND/OR REVIEWED: LOCATION AND SITING:**

 PLAT R649-2-3.

Unit: NATURAL BUTTES Bond: STATE/FEE - 22013542

**Potash** R649-3-2. General

Oil Shale 190-5

Oil Shale 190-3 R649-3-3. Exception

**Drilling Unit** Oil Shale 190-13

Board Cause No: Cause 173-14 Water Permit: Permit #43-8496

**Effective Date:** 12/2/1999 **RDCC Review:** 

Siting: Suspends General Siting **Fee Surface Agreement** 

✓ Intent to Commingle R649-3-11. Directional Drill

**Commingling Approved** 

**Comments:** Presite Completed

Stipulations:

3 - Commingling - ddoucet 5 - Statement of Basis - bhill 15 - Directional - dmason 17 - Oil Shale 190-5(b) - dmason 25 - Surface Casing - hmacdonald

API Well No: 43047513930000



# State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

# Permit To Drill

\*\*\*\*\*\*

Well Name: NBU 921-35M4BS API Well Number: 43047513930000 Lease Number: UO 01194 ST

**Surface Owner:** STATE **Approval Date:** 12/30/2010

#### **Issued to:**

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

#### **Authority:**

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

#### **Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

## **Commingle:**

In accordance with Board Cause No. 173-14 commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

#### General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

#### **Conditions of Approval:**

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

Surface casing shall be cemented to the surface.

API Well No: 43047513930000

## **Additional Approvals:**

The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:

- Any changes to the approved drilling plan contact Dustin Doucet
- Significant plug back of the well contact Dustin Doucet
- Plug and abandonment of the well contact Dustin Doucet

### **Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well contact Carol Daniels OR
- submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at https://oilgas.ogm.utah.gov
- 24 hours prior to testing blowout prevention equipment contact Dan Jarvis
- 24 hours prior to cementing or testing casing contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well contact Dan Jarvis

#### **Contact Information:**

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):

- Carol Daniels 801-538-5284 office
- Dustin Doucet 801-538-5281 office

801-733-0983 - after office hours

• Dan Jarvis 801-538-5338 - office

801-231-8956 - after office hours

#### **Reporting Requirements:**

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) due within 5 days of spudding the well
- Monthly Status Report (Form 9) due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) due prior to implementation
- Written Notice of Emergency Changes (Form 9) due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) due prior to implementation
- Report of Water Encountered (Form 7) due within 30 days after completion
- Well Completion Report (Form 8) due within 30 days after completion or plugging

Approved By:

For John Rogers Associate Director, Oil & Gas Sundry Number: 21487 API Well Number: 43047513930000

	STATE OF UTAH		FORM 9
	5.LEASE DESIGNATION AND SERIAL NUMBER: UO 01194 ST		
SUND	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:		
	sals to drill new wells, significantly deepen exisugged wells, or to drill horizontal laterals. Use <i>i</i>		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 921-35M4BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONS	HORE, L.P.		9. API NUMBER: 43047513930000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th S	PHONE Notice treet, Suite 600, Denver, CO, 80217 3779	NUMBER: 720 929-6515 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0478 FSL 0543 FWL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSHI Qtr/Qtr: SWSW Section: 35	IP, RANGE, MERIDIAN: 5 Township: 09.0S Range: 21.0E Meridian: S		STATE: UTAH
11. CHE	CK APPROPRIATE BOXES TO INDICATE N	NATURE OF NOTICE, REPORT	, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
Kerr-McGee Oil & G extension to this A	CHANGE TO PREVIOUS PLANS  CHANGE WELL STATUS  DEEPEN  OPERATOR CHANGE  PRODUCTION START OR RESUME  REPERFORATE CURRENT FORMATION  TUBING REPAIR  WATER SHUTOFF	espectfully requests an ed. Please contact the nents. Thank you.	CASING REPAIR CHANGE WELL NAME CONVERT WELL TYPE NEW CONSTRUCTION PLUG BACK RECOMPLETE DIFFERENT FORMATION WATER DISPOSAL ✓ APD EXTENSION OTHER: Volumes, etc.  Approved by the Utah Division of Oil, Gas and Mining O1/03/2012
NAME (PLEASE PRINT)	PHONE NUMBER	TITLE	
Danielle Piernot	720 929-6156	Regulatory Analyst	
<b>SIGNATURE</b> N/A		<b>DATE</b> 12/21/2011	

Sundry Number: 21487 API Well Number: 43047513930000



# The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices** 

# Request for Permit Extension Validation Well Number 43047513930000

**API:** 43047513930000 **Well Name:** NBU 921-35M4BS

Location: 0478 FSL 0543 FWL QTR SWSW SEC 35 TWNP 090S RNG 210E MER S

Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 12/30/2010

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

• If located on private land, has the ownership changed, if so, has the surface agreement been updated?   Yes  No
<ul> <li>Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location?</li> <li>Yes</li> <li>No</li> </ul>
<ul> <li>Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well?</li> <li>Yes</li> <li>No</li> </ul>
<ul> <li>Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location?</li> <li>Yes</li> <li>No</li> </ul>
• Has the approved source of water for drilling changed?   Yes  No
<ul> <li>Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?</li> <li>Yes</li> <li>No</li> </ul>
• Is bonding still in place, which covers this proposed well?   Yes   No

**Signature:** Danielle Piernot **Date:** 12/21/2011

Title: Regulatory Analyst Representing: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Sundry Number: 33013 API Well Number: 43047513930000

	FORM 9		
DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING			5.LEASE DESIGNATION AND SERIAL NUMBER: UO 01194 ST
SUNDR	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:		
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.			7.UNIT OF CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 921-35M4BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.			<b>9. API NUMBER:</b> 43047513930000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779  720 929-			9. FIELD and POOL or WILDCAT: 5MATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0478 FSL 0543 FWL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSW Section: 35 Township: 09.0S Range: 21.0E Meridian: S			STATE: UTAH
11. CHEC	K APPROPRIATE BOXES TO INDICAT	E NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
Kerr-McGee Oil & G an extension to this	CHANGE TO PREVIOUS PLANS CHANGE WELL STATUS DEEPEN OPERATOR CHANGE PRODUCTION START OR RESUME REPERFORATE CURRENT FORMATION TUBING REPAIR WATER SHUTOFF WILDCAT WELL DETERMINATION COMPLETED OPERATIONS. Clearly show a sas Onshore, L.P. (Kerr-McGe APD for the maximum time a with any questions and/or co	ee) respectfully requests allowed. Please contact	CASING REPAIR  CHANGE WELL NAME  CONVERT WELL TYPE  NEW CONSTRUCTION  PLUG BACK  RECOMPLETE DIFFERENT FORMATION  TEMPORARY ABANDON  WATER DISPOSAL  ✓ APD EXTENSION  OTHER:  Depths, volumes, etc.  Approved by the  Utah Division of  Oil, Gas and Mining  Date: December 12, 2012  By:
NAME (PLEASE PRINT)	PHONE NUMB	ER TITLE	
Luke Urban	720 929-6501	Regulatory Specialist	
SIGNATURE N/A		<b>DATE</b> 12/11/2012	

Sundry Number: 33013 API Well Number: 43047513930000



### The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices** 

## Request for Permit Extension Validation Well Number 43047513930000

API: 43047513930000 Well Name: NBU 921-35M4BS

Location: 0478 FSL 0543 FWL QTR SWSW SEC 35 TWNP 090S RNG 210E MER S

Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Date Original Permit Issued: 12/30/2010

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

• · · · · · · · · · · · · · · · · · · ·	o a oncomic or come nome	rolated to the approacion, which endula be verifical
	eated on private land, has the	e ownership changed, if so, has the surface agreement been updated? 🔘
	e any wells been drilled in th irements for this location?	e vicinity of the proposed well which would affect the spacing or siting  Yes  No
		agreements put in place that could affect the permitting or operation of thi
	e there been any changes to osed location? ( Yes (	the access route including ownership, or rightof- way, which could affect th
• Has	the approved source of wate	er for drilling changed? 🔘 Yes 📵 No
		anges to the surface location or access route which will require a change in at the onsite evaluation? ( Yes ( No
• Is bo	ending still in place, which co	overs this proposed well? 🌘 Yes 🔘 No
nature:	Luke Urban	Date: 12/11/2012

Sig

Title: Regulatory Specialist Representing: KERR-MCGEE OIL & GAS ONSHORE, L.P.



# State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

January 9, 2014

Kerr McGee Oil & Gas Onshore, L.P. P.O. Box 173779 Denver, CO 80217

Re:

APD Rescinded - NBU 921-35M4BS, Sec. 35, T.9S, R.21E,

Uintah County, Utah API No. 43-047-51393

#### Ladies and Gentlemen:

The Application for Permit to Drill (APD) for the subject well was approved by the Division of Oil, Gas and Mining (Division) on December 30, 2010. On January 3, 2012 and December 12, 2012 the Division granted a one-year APD extension. No drilling activity at this location has been reported to the division. Therefore, approval to drill the well is hereby rescinded, effective January 9, 2014.

A new APD must be filed with this office for approval <u>prior</u> to the commencement of any future work on the subject location.

If any previously unreported operations have been performed on this well location, it is imperative that you notify the Division immediately.

Sincerely,

Diana Mason

**Environmental Scientist** 

cc:

Well File

SITLA, Ed Bonner

